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CITY OF MANCHESTER.

REPORT

ON THE

Health of Greater Manchester,

1891-93.

BY

JOHN TATHAM, M.A., M.D.,

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Rathronan Lodge,
The Avenue, Surbiton,
August, 1894.

To the Right Honourable the Lord Mayor and the Corporation
of the City of Manchester.

My Lord Mayor and Gentlemen,

I have the honour of presenting to you herewith my Report on the Health of the City of Manchester as enlarged by the Act of 1890.

The Report is intended to be an introduction to the Vital Statistics of *Greater Manchester*, and accordingly it has reference, primarily and chiefly, to the details of birth, population, sickness, and death during the three years which have elapsed since the amalgamation of the City became an accomplished fact.

However desirable it may be, on general grounds, that the area of a great city should be enlarged from time to time, so as to keep pace with the growth of its population, nevertheless it is obvious that such territorial extensions render difficult the maintenance of statistical records for past years with which current records may be compared; and the difficulty is increased by the want of uniformity unfortunately existing in the character of the statistical data which are prepared in different parts of even the same county. The case of Manchester is strongly illustrative of this difficulty, because of the impossibility of obtaining accurate records, not only of the population, but of the deaths in past years in the new area of the extended City; for this area, as a whole, corresponds with no district or group of districts hitherto officially recognised, but has been arbitrarily carved out of three distinct though adjacent Poor Law Unions in the County of Lancaster. I have accordingly taken the three entire Unions or Registration Districts of Manchester, Chorlton, and Prestwich as representing the present City with sufficient approximation for purposes of comparison.

It is certain that the great bulk both of the population and of the deaths registered in these three districts actually belong to Manchester, and therefore the aggregate death-rates, &c., of these areas may safely be accepted as practically those of the present City.

The Manchester Life Table, the first edition of which I had the honour to lay before the City Council in 1892, has now been in print long enough to allow of the formation of a definite opinion as to how the healthiness of the people, measured by their mortality, compares with what it should be according to Life Table standards.

In the earlier part of the present Report I have referred to some of the more important practical uses of a Life Table, considered as a measure of sanitary progress, or of regress, as the case may be. At page 24, for example, I have shown a method of estimating the Working Life Capital of a population, and of calculating the number of years of working life capital gained or lost in any period of time.

The remainder of the Report is devoted to a consideration of the statistics of births, sickness, and deaths in the years 1891–93, and also in each year of the previous decennium, as far as this information could be obtained.

It will at once be noticed by those who are accustomed to the perusal of documents of this character that the present Report contains but little reference to the practical operations of the Sanitary Department, with regard, for example, to the removal of nuisances injurious to health, the administration of the Public Health Acts, and the Acts for the prevention of adulteration of food, &c., &c. The explanation is that in Manchester, quite exceptionally, these details are under the supervision of a department which acts independently of the Medical Officer of Health, the relationship of which officer with the Sanitary Inspecting Staff extends only so far as to enable him to exercise a needful control over the spread of dangerous infectious diseases. I am, however, indebted to the Superintendent of the Sanitary Department for the Tables at the end of this Report, showing the amount and character of sanitary work carried out by his department during the years referred to.

The details of statutory procedure by the Medical Officer of Health in regard to the condemnation of certain areas in Oldham Road and elsewhere, as unfit for human habitation, have formed the subject of public local enquiry from time to time, consequently further reference to such procedure is unnecessary here.

In presenting this Report, let me say how deeply conscious I am of its many shortcomings. Written, as it necessarily has been, in the intervals of other pressing occupations, and amidst incessant interruption, the work must necessarily present a somewhat fragmentary character, although I trust that it will be found free from faults of mere carelessness. I would even cherish the hope that, as an honest attempt to deal with the facts of disease and death amongst the vast population of Greater Manchester, the Report may be held to possess some value, and that at any rate it will form a point of departure from which future investigations may profitably be made.

I am, My Lord Mayor and Gentlemen,
Your obedient Servant,
JOHN TATHAM.

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REPORT.

PART I.

GREATER MANCHESTER.

Area.

The district under the jurisdiction of the Manchester Corporation, acting as the Urban Sanitary Authority, is co-terminous with the City itself as enlarged by the Extension Act of 1890.

It includes the greater part of the three Poor-Law Unions or Registration Districts of Manchester, Chorlton, and Prestwich, together with a small part of Ashton-under-Lyne, and extends over an area of nearly 20 square miles. The City is divided into 16 townships of very unequal size and importance.

The Township of Manchester is nearly equivalent to Old Manchester, which embraces three Registration Sub-districts, whereas the remaining 15 Townships are either themselves Registration Sub-districts or they form such districts in combination. Thus : the Townships of Chorlton-upon-Medlock and Hulme are likewise respectively Registration Sub-districts; whilst the Registration Sub-District of Newton embraces the three Townships of Bradford, Beswick, and Newton Heath; and that of Ardwick includes, in addition to the Township of that name, the Townships of Openshaw, the western part of the Township of Gorton, and Rusholme.

The City (or Urban Sanitary District) of Manchester is surrounded on all sides but the northerly by densely-inhabited areas. On the western side it is continuous with Salford, Broughton, and the Rural District of Prestwich. It is bounded on the north by the townships of Alkrington and Prestwich; on the east by Failsworth, Droylsden, and Outer Gorton; and on the south by Levenshulme, Withington, and Moss Side.

Elevation.

The Town Hall, Manchester, is situated in N. Lat. 53° 28′ 44″ and W. Long. 2° 14′ 34″. The City lies at a mean elevation above Ordnance datum of 189 feet, the greatest elevation being at Litchford Hall, Blackley, where it amounts to 348 feet, and the lowest at the City Boundary, Cornbrook Road, Hulme, where it does not exceed 80 feet. The low-lying land greatly predominates in extent over that at higher elevations.

Physiography and Geology.*

Manchester lies in the south-eastern portion of the county of Lancaster, and in close proximity to the northern border of Cheshire, the latter county approaching within three or four miles of the southern part of the City. It is situated on the banks of the river Irwell, into which, before quitting the urban boundaries, two tributary streams, the Medlock and the Irk, discharge their polluted waters. The two latter rivers take their rise in the high grounds near Oldham, to the north-east of Manchester; while the main stream (the Irwell), pursuing a longer course, has its source in the hills to the north-west of Bacup and south of Burnley. These rivers, which carry the main drainage of the district, are defiled almost from their source by the dyeworks and other industries established on their banks. They pour their united waters into the river Mersey† near the village of Irlam, some ten miles to the south-westward of the City. The river Mersey, receiving other tributaries by the way, thence flows westerly by Warrington and Runcorn to the sea at Liverpool.

Manchester, though built upon a somewhat flat or undulating stretch of ground, is yet within easy distance of breezy hills and high moorlands, which are plainly visible from the outskirts of the City on a clear day. These heights, composed of Lower Coal Measure or Millstone Grit Rocks, approach within eight or ten miles of the City on its eastern side, near Stalybridge, in that tongue of Cheshire, which is prolonged north-eastward, and which divides Derbyshire and Yorkshire from the south-east angle of Lancashire. These same hills are continued southward, but diminished in height, by Marple, Disley, and Whaley. Also to the north-west, and within a twenty mile radius of Manchester from Horwich Moor, near Bolton, by Summerseat and Rochdale on the north, Saddleworth on the north-east, a similar hilly country meets our view. The higher moorlands of Millstone Grit, ranging from 800 feet to upwards of 1,800 feet, form tablelands, often peat covered, and are the gathering grounds for the water supply of the town situated below. The moisture-laden clouds carried across the island from the Atlantic by the prevailing westerly winds are here condensed. These Lancashire Highlands are therefore important agents in promoting the generally healthy condition of the crowded and densely-populated area of what may be called the Greater Manchester, by providing refreshing breezes and pure water, so necessary for their welfare.

To the south of the town stretches the drift-covered Triassic plain of Cheshire, with its rich agricultural and pasture lands, its meres and parks surrounding the ancestral home of many an ancient house. The "wiches" or salt towns of Cheshire, of which the district of Northwich, within about twenty miles of Manchester, is at present the most productive, have been long famous for their production of salt, the manufacture from brine dating back to Roman times. The salt beds lie in the Red Marls of the Trias. Within seven to ten miles of the City occur extensive peat mosses, bordering both sides of the river Mersey, as at Carrington, Irlam, and Glazebrook. These mosses have been long undergoing drainage, and are now much shrunk from their former dimensions. Their size and number probably indicate a lower average annual temperature than that which now prevails. Other smaller ones occur nearer to the City.

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* For permission to use the essay of which this sketch is an abstract, I am indebted to the kindness of my friends Professor Boyd Dawkins and Mr. Mark Stirrup, F.G.S.

† The construction of the Ship Canal has, of course, altered this.—J. T.

The importance which Manchester has obtained as a centre of textile, mechanical, and chemical industries is undoubtedly due to its vicinity to the rich coalfields of South Lancashire, which intervenes between it and the high moorlands previously referred to. It is another evidence, if one were needed, of the intimate relationship that exists between England's great hives of industry and the natural resources that the geological nature of the district affords.

The foregoing remarks will give some idea of our physical surroundings, and now as far as our limits will permit, it will be desirable to confine our attention to the geological aspect. A thickly-inhabited area like Manchester, whose ever-increasing mileage of streets gradually absorbs its once green and pleasant suburbs, presents at first sight but few attractions to the geological student. The solid geology is for the most part obscured by thick deposits of Glacial Drift (Boulder-clay, Sands, and Gravels), which so generally overspread the neighbourhood. Owing to the covering of drift and the natural configuration of the country, sections of the rocks are scarce, and some that were visible on the river banks some 20 or 30 years ago are either now enclosed or built over. If we could strip off the glacial drifts we should find an irregular eroded surface of Triassic, Permian, and Carboniferous rocks dipping to the west and forming the western side of the great arch out of which the Pennine Chain has been carved by the elements—by rain and rivers, frost and snow, and the dash of the waves during the long series of geological ages.

The Carboniferous Rocks.

The oldest rocks in Manchester District are of Carboniferous age, and consist of the following divisions :—

Upper Coal Measures	1,680 to 2,000 feet
Middle Coal Measures	3,000 ,, 4,000 ,,
Lower Coal Measures	1,400 ,, 2,000 ,,
Millstone Grit	3,500 ,, 5,000 ,,
Yoredale Shale and Limestone	2,000 ,, 4,000 ,,
Carboniferous Limestone	5,500 feet.

The Carboniferous Limestone which has this enormous thickness in Derbyshire, where it constitutes the picturesque gorges of Millers Dale, Monsal Dale, and others near Buxton and Matlock, consists for the most part of calcareous accumulations formed at the bottom of a deep and clear sea by varied plants and animals. Associated with it are the sheets of lava (diabase), locally termed "toadstone," poured out through fissures opening at the bottom of the sea while the limestone was being accumulated, without trace of any volcanic cones. The Yoredale Shales, sandstones, and thinly bedded limestones, also of marine origin, but formed in a shallow sea not far from the land, rest conformably upon the carboniferous limestone, and are covered in turn by the Millstone Grit, a massive series of petrified sandbanks and mudbanks, full of fragments of the flora living on the adjacent land. The high table-land and the most striking of the sandstone ravines and scars in the Pennine Chain have been carved out of this rock. As we descend to lower levels nearer to Manchester, the three important divisions of the Coal Measures are traversed with their numerous and valuable series of beds of coal, each resting upon a surface of growth traversed by rootlets, and each composed of the accumulation of vegetable matter growing in forests or on flat surfaces near the water-level. The adjacent waters during the time of the Lower Coal Measures mainly fresh, and in the Upper partly fresh and partly marine. In the Upper Coal Measures, which form the greater part of the Manchester Coalfield, are several peculiar layers of limestone full of Spirorbis or Ardwick Limestone. This limestone has the peculiar property of setting under water, and is therefore used as a hydraulic lime. The whole of the carboniferous rocks were thrown into a series of folds, of which the most important in this district is that out of which the Pennine Chain has been carved, at the close of the carboniferous period. On the eroded edges of the Upper Coal Measures lie unconformably the Permian Rocks, contrasting in their physical character and bright red colour with the rocks below, from which their materials were torn by the dash of the waves on a retreating coastline.

The Permian Rocks.

The Permian Rocks consequently rest unconformably on the older Coal Measures, and are a series of sandstones and marls of very irregular thickness. At Collyhurst the Permian Sandstone, friable and mostly of a deep red colour, is 350 feet, and is covered by red marls 233 feet in thickness. The lower portion of the marls is a layer of calcareous nodules, containing *Schizodus* and other obscure shells. This forms a well-marked horizon in the deep borings in the neighbourhood of Manchester. It is the only representative of the thick magnesian limestones of the eastern side of the Pennine Chain.

The New Red Sandstone.

The Permian Marl is proved in many deep borings and cuttings to be covered unconformably by the new red sandstone or Triassic strata which underlie the superficial deposits of the Lancashire and Cheshire plain, with a general dip to the west, or away from the Pennine Chain, in the neighbourhood of Manchester. It consists of the following divisions :—

			Feet.
B. Keuper	5.	Red marl, with rock-salt	3,000
	4.	Water stones	500
A. Bunter	3.	Upper mottled sandstone	500
	2.	Pebble-beds	650
	1.	Lower mottled sandstone	100

These petrified sandbanks and mudbanks are highly charged with peroxide of iron, and have been formed in a shallow, land-locked sea subject to tidal influences. The ripple-marked and sun-cracked surface of some of the layers of sandstone in No. 3 and No. 4, and the well marked, hand-like footprints of *Cheirotherium*, a large Deinosaurian land-reptile, in the upper mottled sandstone of Stourton, near Liverpool, and in the water-stones of Lymm, near Manchester, imply the existence of a sandy shore between tide-marks.

The Boulder-drifts.

A confused series of boulder-clay, sands, and gravels rests on the water-worn irregular surfaces of the Triassic, Permian, and Carboniferous strata, from the area of the Cheshire plain, and from the sea up to about 1,200 feet in the neighbourhood of Macclesfield, where there is a clearly defined shore-line. These are divided by some into Lower Boulder Clay, Middle Glacial Sand, and Upper Boulder Clay. The lenticular character, however, both of the sands and clays renders classification over a wide area almost impossible.

The clays with ice-marked boulders are proved by the blocks of Shap granite and other distant rocks to have been derived from the drift of ice from the north, and the gravels and sands are composed of materials derived from the break-up of the boulder-clay on a shore, possibly, while the stranded bergs were melting. It covers the district like a mantle, filling the valleys, and concealing the contours of the solid rocks beneath. It is of variable thickness ranging from a few up to about 200 feet.

The river terraces and the alluvium only remain to be noticed. Both are formed by the materials carried down by the present rivers in ancient times and are for the most part composed of materials which have been dropped into them by the melting of the ice in the glacial period.

The westerly dip of the Permian and Triassic strata away from the axis of the Pennine Chain proves that the elevation of the Pennine Chain, which began at the close of the Carboniferous age, was not ended before the close of the Triassic age. While the Pennine arch was being developed, a large number of dislocations or faults in the rock had their origin, of which the one thousand yards or the Pendleton fault in the valley of the Irwell is the greatest. The lateral pressure, too, was so great that in many cases, and especially in the valley of the Irwell, the natural cleavage of the coal into cubes was changed into a diamond or lozenge shape, locally known as "shuttles," from their likeness to a weaver's shuttle.

WATER SUPPLY.

The water supply of Manchester is known to be one of the purest in England. It is obtained from the millstone grit formation at Woodhead, the gathering grounds consisting almost exclusively of moorland, and supplying water which is not liable to contamination. About twenty-four million gallons daily are supplied to Manchester on the constant service system, the quantity used per head of the population being 24 gallons.

With a view of providing for the ever-increasing needs of the districts supplied by this Corporation, the Waterworks Committee (under the able direction of Sir John Harwood) have recently completed a supplementary scheme, by which an additional 10,000,000 gallons per day of the purest water from Thirlmere Lake will be available for the use of the City and its neighbourhood.

SEWERAGE AND DRAINAGE.

Intercepting Sewer.—The drainage system of Manchester is at present undergoing thorough reorganization. For several years past the Rivers Committee of the Corporation has been engaged in constructing a large intercepting sewer, which, it is believed, will satisfactorily drain every part of Manchester, including the townships recently added, certain of which greatly need effective sewering and draining.

Sewage Precipitation.—In order to comply with the law in respect of Rivers Pollution, the Corporation have purchased a large area of land at Davyhulme consisting of 345 acres, and have constructed a system of precipitating tanks for the purpose of treating the whole of the sewage of Manchester before allowing it to return to the Ship Canal. It will perhaps be some time before the whole of the City sewage is thus dealt with, but real progress is being made with the necessary work, which will probably be completed before long.

Household Drainage.—It were greatly to be desired that the Corporation should possess powers to deal with the drainage in private streets, yards, and passages; for it is at the distal, not at the proximal or outfall end of the drainage system that mischief is most likely to arise from structural defects in the drains or their connections. That the detail drainage of many parts of Manchester is seriously defective there is every reason to fear; and that this is actually the case is proved by the persistency with which certain diseases which are constantly associated with polluted subsoil cling to certain parts of Manchester.

DISPOSAL OF REFUSE.

Excrement Disposal.—As in the case of the drainage, so also in that of refuse disposal, Manchester is at present in a transition state. Many years ago, on the advice of the late Mr. John Leigh, the Corporation undertook the formidable task of exterminating the midden system which for scores of years had been practically universal in Manchester, as in most other Lancashire towns. Nearly twenty years were occupied in this work, and there is no doubt that, next to the provision of an abundant and pure water supply, its accomplishment was the greatest sanitary achievement ever effected in Manchester. But although the midden cesspools themselves have been removed, together with more or less of the polluted earth immediately adjacent thereto, nevertheless the residual pollution of the soil underlying the houses which these abominations had caused during the scores of years of their existence could not easily be eliminated, and so it comes to pass that many parts of Manchester are to this day suffering from a pestiferous condition of subsoil which is sufficient to explain much of the heavy death-rate, as well as the excessive incidence of filth diseases such as Enteric Fever and Epidemic Diarrhœa in those parts.

Some four years ago the Corporation resolved to convert Manchester into a Water-Closet City, facilities in that direction being afforded by the sewage intercepting system which had already been initiated, and which had even at that period made considerable progress. It still remains to be seen whether or not the most perfect form of water-closet hitherto invented, when applied to cottage property of the lower class, will completely satisfy the expectations of those who advocate universal resort to water carriage; but we may at any rate confidently hope for a beneficial effect in the sanitary condition of our houses as a result of the structural operations which must accompany the establishment of any water-closet system. For example, the drainage of the streets, yards, and passages will necessarily be improved, the subsoil will be rendered drier, and in many cases old and dilapidated houses will doubtless be demolished, and thus the overcrowding of houses on area will be reduced.

The Corporation possess an estate consisting of 1,100 acres of reclaimed moss at Carrington, about nine miles from the City, where a large portion of the nightsoil is disposed of as manure. Another estate of 2,600 acres has recently been purchased for the same purpose at Chat Moss, which is about the same distance from the Manchester Town Hall. At the first-named depot an average of 54,000 tons annually of Manchester nightsoil are disposed of and applied to the land, the process being so conducted as to give rise to no appreciable nuisance.

Destruction of Dry Refuse, Street Sweepings, &c.—After all the excremental refuse of the City has been dispatched to Carrington and other estates for disposal on the land, there still remains an enormous amount of dry refuse, which, although worthless for manurial purposes, soon becomes a serious nuisance if allowed to remain long within the City boundaries. The practice hitherto almost universal in Lancashire of filling up inequalities in the ground with this refuse, or for using it for the formation of building sites, is now very properly condemned, and should not longer be tolerated in Manchester. The expedient most commonly adopted in England and in parts of Scotland for the disposal of this bulky and worthless rubbish is that of destruction by fire. In a large number of British towns, large destructors have been provided, capable of burning the whole of the refuse of this kind that is produced by the respective town populations. In Manchester such destructors have already been constructed at Water Street, Holt Town, and Grimshaw Lane, and in these a large quantity daily of worthless material, such as dry midden contents, street sweepings, market garbage, and other similar matters, is reduced by fire to the harmless condition of "Clinker," in which state what was formerly a bulky objectionable refuse is now found to be a useful commodity for the manufacture of mortar, the quality of which is said to be highly appreciated by Manchester builders, who in the year 1893 purchased 13,439 tons of mortar from the Corporation at the price of four shillings a ton.

PART II.

CENSUS, 1891.

A.—The City of Manchester.

Population of the Extended Area.—On the night of April 5th, 1891, the City of Manchester—which includes the whole Registration District or Union of that name, together with the greater part of the Registration Districts of Chorlton and Prestwich and a small part of Ashton-under-Lyne—was found to contain a population of 505,368 persons. At the census enumeration of 1881 the same area contained a population of 462,303. Manchester has therefore increased during the last intercensal period by 9·3 per cent. Within the last 50 years the area under the jurisdiction of the Corporation has several times been extended. In the table given below, however, the populations at the several census-takings are those enumerated within the area of the present City, as enlarged by the Act of 1890. The first census in the list is that of 1841, which was taken four years after the inauguration of Civil Registration in England.

Date of Enumeration	Population (Persons)	Increase of Population since previous Census	Decennial Rate of Increase, per cent.
1841—June 7	256,525	...	...
1851—March 31	335,610	79,085	31
1861—April 8	390,271	54,661	16
1871—April 3	425,241	34,970	8·9
1881—April 4	462,303	37,062	8·7
1891—April 5	505,368	43,065	9·3

It will thus be seen that the rate of increase, which in the two preceding intercensal periods had been slowly diminishing, showed a decided tendency to recover during the ten years 1881–90.

It is familiar knowledge that the populations of our great towns increase far more rapidly than do those of the rural districts. But a less familiar, though not less important fact has been brought to light by the careful analysis to which our census figures are subjected at the central office. It is this: that the largest proportional increase takes place, not in the principal towns of England—namely, those with over 250,000 inhabitants—but rather in the towns with populations between 50,000 and 100,000. If the rate of increase of our own population during the last decade be compared with the aggregate rate of the six largest towns or cities, we find it to be nearly the same, namely, nine per cent., whereas the increase in the towns of from 50 to 100,000 population amounts to 23 per cent.

A probable explanation of what at first appears contradictory in regard to this, is that suggested by the Registrar General, viz., "that in these excessively populous towns there is no longer space for internal growth, and that new comers have to settle outside the municipal or official boundary, and so are not reckoned in the population." And again, "it must not be supposed that a falling off in the rate of increase or even an actual decline in the population of a great town implies any corresponding decline in its prosperity. It may, indeed, imply the very opposite. For it may be that the limited area within the official boundary of the town has become too valuable for ordinary residence, and that warehouses and business premises have taken the place of dwelling-houses; the displaced inhabitants, as also the new comers, settling themselves outside the recognised town limits. This process, as is well known, has long been going on in the Central Districts of London, where the resident population has diminished with each successive census, and doubtlessly it has been going on, if in a less remarkable degree, in other cities. Thus the real growth of a great town can often times only be properly estimated if the official boundaries are ignored, and the ring of suburbs are included within its area."*

The Registrar General was led to make the observations here quoted by a consideration of the case of Manchester, where, at a period anterior to the recent extensions—namely, in the year 1881—the City population was believed to be actually decreasing; but the addition of the suburban areas now included in the City has had the effect of converting an estimated decrease of 2·8 per cent. into an actual increase of about nine per cent.

Age and Sex Constitution of Population.—In Vol. III. of the Census Reports of 1881 and 1891 are given the numbers of persons living at quinquennial age-groups in the Urban Sanitary District or City of Manchester, distinguishing males and females.

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* Preliminary Census Report, 1891, pages viii. to x.

The following table is taken from those reports :—

AGES	1891			Proportion to Population at all ages	
	MALES	FEMALES	PERSONS (Males and Females)	1881	1891
Under 1 year ...	6,896	6,963	13,859	29·37	27·42
1-5 years	24,063	24,707	48,770	105·14	96·50
5-10 ,, ...	28,014	28,731	56,745	113·56	112·29
10-15 ,, ...	27,822	28,051	55,873	100·25	110·56
15-20 ,, ...	25,539	27,039	52,578	97·64	104·04
20-25 ,, ...	23,194	26,147	49,341	101·00	97·63
25-35 ,, ...	40,121	42,834	82,955	168·87	164·14
35-45 ,, ...	30,818	32,234	63,052	123·82	124·77
45-55 ,, ...	20,658	23,004	43,662	84·92	86·40
55 65 ,, ...	11,002	13,493	24,495	49·97	48·47
65-75 ,, ...	4,728	6,628	11,356	20·16	22·47
75-85 ,, ...	948	1,501	2,449	4·90	4·85
85 and upwards ..	76	157	233	·40	·46
All ages	243,879	261,489	505,368	1000·00	1000·00

The changes which the above table shows to have taken place in the age constitution of the populations between 1881 and 1891 are very significant, and will certainly have their effect on the future death-rate. The proportions of infants and of children under 10 years have markedly declined during the last decade, whilst the proportion of persons in the decline of life, *i.e.*, over 65 years old, has considerably increased. Amongst young persons from 10 to 20 years of age the proportion has also considerably increased, and so likewise has that of persons from 35 to 55 years of age. These changes are in the same direction as those which have taken place at previous censuses, but it should be remembered that the population dealt with in 1891 is that of a much larger area than in 1881. Of the 505,368 persons enumerated at the last census, 243,879 were males and 261,489 females. There were therefore 107 females to every 100 males in the Manchester population.

Estimation and Enumeration of Population.—For the years intervening between one census and another the Registrar General prepares an estimate of the population for certain important districts by assuming that the preceding intercensal rate of growth has been maintained during the years subsequent to the census. The estimate of the Manchester population for the year 1891, formed on this basis at the end of the year 1890, was perhaps the most successful that has ever been made for a great English town. The population as estimated to midsummer, 1891, was within 150 of the census numbers, corrected to the middle of the year. The official statement of the population based on the census enumeration, and published in June, 1891, is therefore for practical purposes identical with the pre-existing estimate.

B.—STATISTICAL SUBDIVISIONS OF THE CITY.

For many years past the areas adopted for the calculation of local birth and death rates have been the sub-districts of the Registrar General.* It is found, however, on carefully examining these areas that, not only are they as a rule, too large, but they are in many cases too diversified as regards character of population, as well as sanitary condition, to give satisfactory results either from a statistical or from an administrative point of view. Added to which, they are by no means exactly co-terminous with the City limits, which latter have been fixed without reference to registration requirements: so that when the census figures come to be dealt with statistically there is difficulty in separating the portions of certain sub-districts that are within from those that are without the municipal boundaries.

Accordingly, I have thought it wise to adopt the Civil Parishes or Townships of Manchester as unit areas for statistical as well as for administrative purposes. At page 160 is given a chart showing the boundaries of the 18 districts and townships of the present City. In order to avoid errors arising from paucity of data when dealing with short periods of time, like a week or a quarter, I have combined the townships into three groups, denominated severally as follows :—

I.—Manchester Township.

II.—North Manchester.

III.—South Manchester.

These larger divisions, each of which contains a population exceeding a hundred thousand, have at least the merit of corresponding in every case with the intra-municipal portions of the three divisions which collectively form the City of Manchester.

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* There will always be a slight discrepancy between the two sets of returns, because the deaths of Manchester persons in certain extra-municipal institutions are included by us, although they are not included by the Registrar General.

TABLE 1.—STATISTICS OF CENSUS POPULATION.

STATISTICAL AREAS	DENSITY		POPULATION						
	Persons per Acre		Without Institutions		Institutions		Total Population		Difference
	1881	1891	1881	1891	1881	1891	1881	1891	Per cent. in 1891
City of Manchester	**36**	**40**	**455,751**	**498,252**	**6,552**	**7,116**	**462,303**	**505,368**	+9·3
I. Manchester Township	90	88	148,112	144,393	682	707	148,794	145,100	−2·5
II. North Manchester	14	18	99,460	123,187	4,413	4,670	103,873	127,857	+23·1
III. South Manchester	53	59	208,179	230,672	1,457	1,739	209,636	232,411	+10·9
(TOWNSHIPS)									
I. Ancoats	120	115	47,979	45,918	1	64	47,980	45·982	−4·2
Central	56	51	41,002	37,438	681	622	41,683	38,060	−8·7
St. George's	119	123	59,131	61,037	...	21	59,131	61,058	+3·3
II. Cheetham	28	32	24,822	28,429	899	1,161	25,721	29,590	+15·0
Crumpsall	11	14	5,033	7,458	3,121	2,913	8,154	10,371	+27·2
Blackley	3	4	5,844	7,094	231	238	6,075	7,332	+20·7
Harpurhey	25	43	4,810	8,380	...	...	4,810	8,380	+74·2
Moston	3	4	3,426	5,113	40	66	3,466	5,179	+49·4
Newton Heath	22	25	29,067	33,713	122	292	29,189	34,005	+16·5
Bradford	56	69	16,121	19,981	...	...	16,121	19,981	+24·0
Beswick	83	101	7,957	9,691	...	...	7,957	9,691	+21·8
Clayton	5	7	2,380	3·328	...	...	2,380	3,328	+39·8
III. Ardwick	61	69	30,927	34,718	270	303	31,197	35,021	+12·3
Openshaw	28	41	16,153	23,927	...	...	16,153	23,927	+48·2
Gorton (West)	60	72	20,405	24,555	...	...	20,405	24,555	+20·3
Rusholme and Kirk.	10	12	14,108	17,142	28	178	14,136	17,320	+22·5
Chorlton-upon-Medlock	86	92	54,932	58,786	666	834	55,598	59,620	+7·2
Hulme	151	151	71,654	71,544	493	424	72,147	71,968	−0·2

PUBLIC INSTITUTIONS.

Disturbance of Statistics by Institution Populations and Deaths.—The City of Manchester supports partially or entirely not fewer than forty-five important Public Institutions, some of which are within and others without the City limits (See Table, on page 15). These institutions consist of Hospitals, Public Charities, Industrial Schools, and Workhouses: they contain in the aggregate a population of between nine and ten thousand. Amongst this population, which is abnormal as regards age and sex constitution, deaths occur in excessive proportion. So long as these institution populations and the deaths incidental thereto were treated as merely a constituent part of the larger population of the entire City, no serious error was apparent. But as soon as an attempt was made to deal with individual townships as statistical units, it became obvious that the populations and deaths in these establishments must be distributed; for, otherwise, the rates of birth and death of the districts in which they stand would be worthless and misleading. Take, for example, the case of Crumpsall. This township was found at the last census to contain a population of 10,371. But in the township area are situated the two large workhouses of the Poor Law Unions of Manchester and Prestwich, which contained at the last census an aggregate population of 2,913, or considerably more than one-fourth of the total population of the Crumpsall Township. Amongst this workhouse population of 2,913, not fewer than 2,797 deaths occurred in the three years 1891-93; and if these deaths which were actually registered as occurring in the township had been allowed to remain undistributed, it is obvious that the calculated death-rate would have caused alarm in a district which is certainly one of the healthiest in the City.

Accordingly, the population births and deaths in the two workhouses, with the exception of the small number actually belonging to the Township itself, have been taken out of the Crumpsall registers. The facts concerning the Manchester (Crumpsall) Workhouse have been distributed to the three districts of the Township of Manchester, to which they undoubtedly belong; and those concerning the Prestwich Workhouse have been distributed over the various townships of the Prestwich Union—the population having been distributed proportionally to the township populations, and the deaths to the enumeration districts from which the paupers originally came to the workhouse. The same principle has been adopted as far as practicable in the distribution of the population and deaths in the Chorlton Union Workhouse, which is just outside the city boundaries; and also in the case of the Hospitals, Dispensaries, and other Public Institutions connected with the City. In this way not fewer than 6,932 institution deaths in the years 1891-93 have been extracted and referred to the enumeration districts in which are situate the original homes of the deceased inmates.

TABLE 2.—POPULATIONS—DEATHS OF MANCHESTER RESIDENTS, 1891–1892–1893, IN PUBLIC INSTITUTIONS.

Township	NAME OF INSTITUTION	Population 1891	Deaths 1891	Deaths 1892	Deaths 1893
ANCOATS	Ancoats Hospital	64	92	93	117
CENTRAL	Workhouse Casual Wards	167	3	3	3
	Royal Infirmary.....................	260	304	280	276
	St. Mary's Hospital	27	12	12	8
	Lock Hospital	25	...	...	1
	Eye and Ear Hospital	7	...	...	...
	Alsop's Boys' Home	11	...	...	...
	St. Joseph's Girls' Home.........	17	...	...	...
	Chetham Hospital..................	100	...	...	...
	MissionRefuge(St.John'sParade)	8	...	...	...
ST. GEORGE'S ...	Girls' Home (Charter Street) ...	21	...	...	...
CHEETHAM ...	Her Majesty's Prison	922	12	3	8
	Boys' Refuge	185	1	1	1
	Girls' Friendly Society............	18	...	...	...
	Clinical Hospital	36	65	63	64
CRUMPSALL ...	Manchester Workhouse	2,608	872	828	801
	Prestwich Workhouse	305	110	97	89
BLACKLEY	Manch. & Salford Reformatory.	76	...	...	...
	Litchford Hall	152	...	2	2
	Well'sHouseConvalescent Home	10	...	...	...
MOSTON	St. Mary's Home	34	5	2	5
	St. Bridget's Orphanage	32	...	...	...
NEWTON....	Monsall Hospital	185	186	186	229
	Little Sisters ofPoor(Culch.Hall)	107	12	5	8
ARDWICK	Industrial School	203	...	2	...
	Nicholls Hospital	100	...	...	...
RUSHOLME......	St. Joseph's Girls' School	150	1	1	2
	St. Mary's Home	28	...	...	1
CHORLTON-ON-MEDLOCK	St. Joseph's Boys' School	413	1	...	...
	Royal Eye Hospital	59	...	2	1
	LittleSistersofPoor(Plym.Grove)	182	20	18	32
	Casual Wards (All Saints)	21	...	...	...
	Southern Hospital.................	23	18	16	31
	Cancer Hospital....................	19	...	...	10
	Maternity Home	11	6	13	9
	Home for Young Girls	18	...	...	...
	Rylands' Orphanage	17	...	...	...
	Church Army Labour Home ...	20	...	...	...
	Penitentiary	51	...	...	...
HULME	Cavalry Barracks	404	1	2	8
	Boys' Home (Chester Road) ...	20	...	...	...
* OUTSIDE CITY.	Withington Workhouse	1,375	585	443	536
	Ashton-under-Lyne Workhouse.	...	2	4	4
	Pendlebury Hospital..............	50	54	39	39
	Prestwich Lunatic Asylum	755	62	44	58
TOTALS.........		9,296	2,424	2,159	2,349

* Proportion only.

Estimated Populations, 1891–3.

The population of the City of Manchester, as recently enlarged, is estimated in the middle of 1891 at 508,673 persons. In the middle of 1892 the number was 513,196, and 517,760 in the year 1893.* The natural increase of population—that is, the excess of births over deaths—during these three years amounted to 4,006, 5,269, and 4,716 severally. The estimated annual increase in these years averaged 4,585.

Comparison of Current Manchester Statistics with those of Past Years.

Although with the kind assistance of Mr. N. A. Humphreys, Secretary to the Census Office, I have been able to ascertain the *populations* of the extended City for years anterior to the last extension of the City, it is unfortunately impossible to obtain details of marriages, births, and deaths for the same area with sufficient precision for statistical purposes. Accordingly, in order to obtain satisfactory data for remote years with which the vital statistics of the last three years may be compared, I have been obliged to discard the unstable municipal boundaries and to have recourse to the more permanent areas of the Registrar General. The three entire Unions or Registration Districts of Manchester, Chorlton, and Prestwich have therefore been taken as representing the present intra-municipal area with sufficient approximation for the calculation of reliable rates of births, marriages, and deaths. For although these Unions include extra-municipal areas which are mainly rural in character, still, inasmuch as the great bulk of the marriages, births, and deaths take place within the municipality, which likewise contains all but a small proportion of the population of the three Unions, the rates of marriages and births as well as those of mortality may be accepted as practically those of the City of Manchester. In order to show how nearly the rates computed on the population births and deaths of the three Unions correspond with the rates calculated on the facts recorded within the City area, I here give in parallel columns the rates for the same year (1892) calculated in both ways :—

	Birth-rate, 1892	Death-rate, 1892
Population births and deaths in 1892 in the three Unions of Manchester, Chorlton, and Prestwich	33·0	23·3
Population births and deaths in same year within present City of Manchester	33·4	23·2

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* These estimates exceed by about 2,000 the estimates of the Registrar General ; for our estimates include a portion of the population of certain extra-municipal institutions which receive Manchester patients for treatment.

For all periods including and subsequent to the census year (1891), the area population and other facts dealt with in the local returns and reports are those of the present City of Manchester.

Manchester Mortality contrasted with that of England and Wales.—Thanks to the labours of the Registrar General we now know the numbers, and can arrive at the proportion of persons living in the Manchester population at certain convenient groups of ages. The deaths occurring in each year are also arranged in age periods, consequently we are able to say what proportion of males and females living at certain age-groups die annually in Manchester; and further, we are able to compare the mortality at the several ages with the corresponding rates of the Life Table, o with those of England and Wales, taken as a standard. It is now generally held by statisticians that a mere statement of the proportion of deaths without distinction of age is misleading, and may prove mischievous, because of the enormous differences in the mortality at certain ages, as well as in the age constitutions of various populations. For example, in the years 1891-93 the mortality of persons aged from 10 to 15 years was only 3 *per* 1,000 *living at that age*, whilst at ages under five years the mortality was equal to 83 per 1,000 children then living, and amongst persons above 65 years of age the mortality was equal to nearly 125 per 1,000 of the population at that age. A heavy infantile or an excessive senile mortality might therefore be masked in a given area if its healthiness were measured by the gross death-rate at all ages arrived at in the ordinary way, particularly if that area happened to contain an unusually large proportion of persons at ages at which the death-rates are low, unless the latter were supplemented by a statement of the death-rates at convenient age-groups. In Table 3 the Manchester rates of mortality at all ages in 1891-93 are brought into contrast with the rates for the decade 1881-90 in England and Wales, which for the present purpose have been taken as a standard. In this Table also, the Manchester rates at twelve groups of ages amongst males and females separately are contrasted with the corresponding rates in England and Wales, and thus the particular œtal periods are indicated at which the adverse influences of our city life tell most heavily against the health of the people. The mean annual rate of mortality in England and Wales during the last decade was 20·28 per thousand among males, 18·06 among females, and 19·17 among persons of both sexes. The Manchester rate of mortality in 1891-93 amongst persons at all ages, without distinction of sex, was 24·46 per thousand, and therefore exceeded the standard rate by 28 per cent. Amongst males at all ages the excess was equal to 30 per cent., and to 26 per cent. amongst females. The mortality of children during the earlier years of life is commonly regarded as the most reliable test of the healthiness of a population. We have seen that the mortality in Manchester at all ages during the years 1891--3 exceeded that of England and Wales in the last decade by 28 per cent.

TABLE 3.—MEAN POPULATION, DEATHS, AND ANNUAL RATES OF MORTALITY IN MANCHESTER IN THE YEARS 1891–93 AT TWELVE GROUPS OF AGES AMONGST PERSONS, MALES AND FEMALES, COMPARED WITH THE AVERAGE RATE AT THOSE AGES IN ENGLAND AND WALES DURING THE DECENNIUM 1881–90.

AGE GROUPS	PERSONS		MALES		FEMALES	
	Mean Estimated Population, 1891–93	Mean Deaths, 1891–93	Mean Estimated Population, 1891–93	Mean Deaths, 1891–93	Mean Estimated Population, 1891–93	Mean Deaths, 1891–93
All Ages	513209·7	12551·3	246811·0	6489·3	266398·7	6062·0
0—	64336·7	5351·0	31797·0	2873·7	32539·7	2477·3
5—	58068·0	363·7	28623·3	181·0	29444·7	182·7
10—	56456.3	169·3	27756·0	87·0	28700·3	82·3
15—	53541·3	252·7	25960·0	133·0	27581·3	119·7
20—	50160·3	298·3	23460·0	144·3	26700·3	154·0
25—	84568·3	800·3	40821·7	410·0	43746·7	390·3
35—	64117·7	1112·3	31274·7	618·3	32843·0	494·0
45—	44361·0	1260·3	20924·0	688·7	23437·0	571·7
55—	24479·3	1307·7	10945·0	626·7	13534·3	681·0
65—	10707·3	1111·3	4361·7	518·7	6345·7	592·7
75—	2201·3	456·0	819·3	183·7	1382·0	272·3
85	212·0	68·3	68·3	24·3	143·7	44·0

AVERAGE ANNUAL DEATH-RATE PER 1,000 LIVING AMONG.

	PERSONS		MALES		FEMALES	
	Manchester, 1891–93	England and Wales, 1881–90	Manchester, 1891–93	England and Wales, 1881–90	Manchester, 1891–93	England and Wales, 1881–90
All Ages	24·46	19·17	26·29	20·28	22·76	18·06
0—	83·17	56·77	90·38	61·59	76·13	51·95
5—	6·26	5·31	6·32	5·35	6·20	5·27
10—	3·00	3·04	3·13	2·96	2·87	3·11
15—	4·72	4·38	5·12	4·33	4·34	4·42
20—	5·95	5·64	6·15	5·73	5·77	5·54
25—	9·46	7·20	10·04	7·78	8·92	7·41
35—	17·35	11·51	19·77	12·41	15·04	10·61
45—	28·41	17·23	32·91	19·36	24·39	15·09
55—	53·42	31·57	57·26	34·69	50·32	28·45
65—	103·79	65·38	118·92	70·39	93·40	60·36
75—	207·15	138·88	224·22	147·14	197·03	130·62
85	322·17	288·32	355·78	305·81	306·19	270·82

Among children under five years of age the excess was 47 per cent. The rate of mortality at this age was higher in 1891 than in either of the two following years. It was 86·6 in the earlier and 78·0 and 84·9 in the two subsequent years. On inspection of the first two columns of the Table, it will be seen that in the five age-groups representing the thirty years period, from five years to thirty-five, the rates of mortality are almost insignificant when compared with those at the extremes of life. It will further be noticed that at several of these age-groups the Manchester rate does not greatly exceed that of England and Wales; in fact at the age ten to fifteen years, the Manchester rate for females is even lower than that of England and Wales. But it would be unsafe to assume that the healthiness of the population of Manchester at these ages is in reality so nearly on a par with that of the country generally as the *recorded death-rates* seem to imply. In all probability, there is a fallacy underlying the recorded death-rates of great towns at the periods of youth and early prime. It should be remembered that large numbers of our wage-earning classes are resident in Manchester only so long as health remains good, and they can maintain themselves by continuous personal exertion. Many office clerks and shop assistants of both sexes; many domestic servants and other persons of the same class, for whom there is great demand in urban centres, return to their homes in the country when overtaken by sickness. Ending their lives, as many of these people do, at or near the place of their birth, their deaths are not attributed to the towns in which most of their working life has been spent, and hence the recorded rates of mortality in those urban centres are made to appear unduly low at the ages referred to. Taking the three age-groups in our Table which correspond to the decline of life, we find that the mortality in Manchester City, both amongst males and females, is enormously greater than in England and Wales as a whole. The rate of mortality among persons of both sexes increases rapidly after the 65th year has passed, the proportions in the ten-year periods beginning with 65, 75, and 85 years of age respectively being equal to 104, 207, and 322 in *each thousand persons living at these ages.* On reference to the Table from which my recently published Life Tables have been deduced (page 105), we find that although the rates of mortality of old persons up to the age of 85 years are higher than elsewhere in the unhealthy area of the Manchester Township, nevertheless amongst very old persons, *i.e.*, those over 85 years of age, the Township rates are considerably lower than those of the outside districts of Prestwich and Chorlton. In the New Edition of the Manchester Life Table (page 31) it is suggested that the explanation of this apparent anomaly is probably two-fold, and in both connections may reasonably be traced to the very large proportion of the population belonging to Manchester Township that are in receipt of poor-law relief.* In the first place, there is the well-known tendency of old people to overstate their ages, the effect of which is to give us a rate of mortality for, say, age 70 which is really the rate belonging to some lesser age, say 65; and there are grounds for believing that this tendency is greater among those applying for poor-law relief than among those who are able to support themselves. In the second place, there can be little doubt that the lives of inmates of the Workhouse at Crumpsall are to some extent prolonged by the care they receive in that admirable Institution.

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* At the Census of 1891 the inmates of Workhouse establishments in England and Wales were 1 in 159 of the population; in Manchester Township the proportion was 1 in 52.

PROGRESS AND REGRESS.

TABLE 4.—City of Manchester, Manchester Township, and Manchester Outlying Townships.—Mean Death-rates in Ten Years, 1881-90, compared with Mean Rates in 1891-93.

Persons—Males and Females.

Ages	City of Manchester			Manchester Township			Manchester Outlying Townships		
	Mean Rate, 1881-90	Mean Rate, 1891-93	Difference, per cent.	Mean Rate, 1881-90	Mean Rate, 1891-93	Difference, per cent.	Mean Rate, 1881-90	Mean Rate, 1891-93	Difference, per cent.
All ages	24·25	24·46	+ 0·9	31·68	30·75	– 2·9	21·52	21·90	+ 1·8
Childhood, 0-5	77·32	83·17	+ 7·6	95·89	105·30	+ 9·8	70·55	74·23	+ 5·2
School Age, 5-15	5·68	4·65	– 18·1	6·30	5·49	– 12·9	5·46	4·32	– 20·89
Adoles'nce, 15-25	5·83	5·31	– 8·9	7·83	6·17	– 21·2	5·12	5·00	+ 2·3
Maturity 25-45	13·30	12·86	– 3·3	19·74	16·76	– 15·1	10·93	11·27	+ 3·1
Maturity 45-65	35·65	37·30	+ 4·6	49·34	47·78	– 3·2	30·13	32·72	+ 8·6
Decline, 65 & up.	111·61	124·66	+ 11·7	121·50	146·94	+ 20·9	107·66	116·44	+ 8·2

Comparison of Mortality in 1891–93 and in 1881–90.

The above Table gives (1) for the Manchester City, (2) for the Manchester Township, and (3) for the Outlying Manchester Townships the mean rate of mortality at six stages of life in the years 1891–93, and for comparison with these the mean rates for the decennium 1881–90: the latter rates being those which, in a modified form*, were used as the basis of the three Manchester Life Tables, recently published. The difference per cent. between the two sets of rates is also given in a separate column. The object of this Table is to furnish a ready means of demonstrating the amount of life saved and the amount lost in the last three years, compared with the mortality in the previous decennium. Careful examination of Tables similarly constructed for future years will constitute a useful record of Progress or of Regress, the value of which will, however, of course depend on the accuracy of the population estimates. Such Tables will also indicate from time to time the localities in which excessive mortality is taking place, and will form a valuable intimation of the necessity for further investigation in the event of a sudden increase of mortality in either division of the City.

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* For the original table, see page 105.

LIFE TABLE AS TEST OF PROGRESS OR OF REGRESS.

Thus far we have given only such tables and calculations as may equally well be prepared for any town or district in the country. But, in the set of Life Tables recently published, Manchester possesses a great and distinct advantage over most other parts of the kingdom; and we propose to show briefly one practical use of those tables in relation to the vital statistics of the three years 1891–92–93. The mean population of Manchester Township in 1891 is estimated at 148,512, and that of the Outlying Townships at 360,161; or in other words, 148,512 years of the "future lifetime" of the population of Manchester Township, and 360,161 years of the future lifetime of the population of the Outlying Townships were lived, or expended, during the year. For if we could count the population each week in the year, the sum of all these weekly populations divided by the number of weeks in the year would be very nearly the mean population during the year; and, further, if we reckoned each person enumerated in the first week as expending one week of life, and made a similar assumption with regard to every succeeding week, the number of weeks of life expended in the year would be the sum of all the enumerations, and the years of life expended would be this sum divided by the number of weeks in the year, *or the same figure as the mean population.* It is true that there is a slight error in assuming that each person enumerated in a particular week lives the whole of that week in the community, but the very nature of that error proves the truth of the above proposition, and this can easily be shown.

Of the population enumerated in any week, those who enter or leave the community during the week expend only part of a week of life; therefore our assumption overstates the total weeks of life, but the overstatement *in weeks* cannot exceed the number of persons who enter or leave the community in the course of the year. If our census were taken daily instead of weekly we should approximate more closely to the true mean population, and at the same time should reduce the overstatement of lifetime expended, for, by the same reasoning as before, it could not exceed *one day* for every person entering or leaving the population during the year; and if our census were taken every hour, we should get still nearer to the true mean population, and should further reduce the error in expended lifetime to a maximum of *one hour* for every person entering or leaving. From this it is clear that the same process which brings us nearer to the true mean population, at the same time reduces the error in the lifetime expended, and can be made to reduce it as much as we please. We are, therefore, correct in saying that whatever figure represents the mean population also represents with equal accuracy the years of life expended in the year.

Now the Life Tables tell us what is the mean number of years of life added to the population by each child born. Thus :—

MANCHESTER TOWNSHIP.

	BIRTHS OF		MEAN FUTURE LIFETIME		YEARS OF LIFE ADDED BY BIRTHS			Years of Life Expended by Mean Population
	Males	Females	Males	Females	Males	Females	Total	
1891	2,587	2,572	28·78	32·67	74,454	84,027	158,481	148,512
1892	2,625	2,530			75,548	82,655	158,203	148,065
1893	2,657	2,563			76,468	83,733	160,201	147,606
Total of Three Years	7,869	7,665			226,470	250,415	476,885	444,183

OUTLYING TOWNSHIPS.

	BIRTHS OF		MEAN FUTURE LIFETIME		YEARS OF LIFE ADDED BY BIRTHS			Years of Life Expended by Mean Population
	Males	Females	Males	Females	Males	Females	Total	
1891	6,168	5,881	38·11	41·58	235,062	244,532	479,594	360,161
1892	6,198	5,809			236,206	241,538	477,744	365,131
1893	6,102	5,953			232,547	247,526	480,073	370,154
Total of Three Years	18,468	17,643			703,815	733,596	1,437,411	1,095,446

These figures will well repay consideration. The mean birth-rate in Manchester Township in the three years was 35·0 per 1,000, and the births which gave this rate added 476,885 years of life, while 444,183 years were expended by the population; thus the births added 107 years of life for each 100 years of life expended. The mean birth-rate in the Outlying Townships in the same three years was 33·0 per 1,000, but the births which gave this smaller rate added 1,437,411 years of life, while 1,095,446 years were expended by the population; thus the births added 131 years of life for each 100 years expended. It would require a birth-rate of nearly 43 per 1,000 in Manchester Township to add 131 years of life for each 100 expended by the population.

The principle here applied to the births may be extended to the existing population; for the persons living at any age represent a certain number of years of life, which number is measured by their expectations of life as shown in the Life Tables.

The future lifetime of l_x persons who reach age x is Q_x, and their average expectation of life is $\frac{Q_x}{l_x}$ (see Manchester Life Tables, page 18) It may easily be proved that the future lifetime of P_x persons living at all ages between x and $x + 1$ is $Q_x - \frac{P_x}{2}$, their mean expectation being $\frac{Q_x}{P_x} - \frac{1}{2}$; and that the future lifetime of $P_x + P_{x+1} + \ldots + P_{x+n-1}$ persons living at all ages between x and $x + n$ is $(Q_x + Q_{x+1} + \ldots + Q_{x+n-1}) - \frac{1}{2}(P_x + P_{x+1} + \ldots + P_{x+n-1})$, and their mean expectation

$$\frac{Q_x + Q_{x+1} + \ldots + Q_{x+n-1}}{P_x + P_{x+1} + \ldots + P_{x+n-1}} - \frac{1}{2}$$

This formula enables us to determine the mean future lifetime of persons in groups of ages, and choosing as most convenient for practical use those groups in which the deaths are classified, we get the following table :—

MEAN FUTURE LIFETIME OF MALES AND FEMALES IN GROUPS OF AGES (FROM THE MANCHESTER LIFE TABLES).

Age-groups	Manchester Township		Outlying Townships	
	Males	Females	Males	Females
0— ...	38·30	41·41	46·85	49·09
5— ...	39·13	42·47	46·88	49·04
10— ...	35·55	39·04	43·11	45·33
15— ...	31·58	35·06	39·12	41·27
20— ...	27·79	31·23	35·08	37·20
25— ...	22·97	26·15	29·36	31·52
35— ...	17·54	20·09	22·50	24·50
45— ...	12·99	14·80	16·35	17·87
55— ...	9·44	10·47	10·91	12·10
65— ...	6·26	7·43	7·08	7·66
75— ...	4·24	5·28	4·40	4·87
85 and up	3·08	3·58	2·57	3·21

Life Capital.—If we now apply these figures to the estimated populations in groups of ages in 1891, 1892, and 1893, we shall obtain the aggregate future lifetime of each of those populations, or, as we may appropriately call it, the Life Capital of the City in those years. As, however, the estimated population in 1892 is practically the mean population in the three years, it will be sufficient to show the Life Capital in 1892, and this may be taken as the average Life Capital in the three years.

TABLE 5.

ESTIMATED MEAN POPULATION AND LIFE CAPITAL OF THE CITY OF MANCHESTER IN THE THREE YEARS 1891–92–93.

Age-groups	Population			Life Capital		
	Manchester Township	Outlying Townships	City of Manchester	Manchester Township	Outlying Townships	City of Manchester
Males						
0—	9,009	22,787	31,796	345,045	1,067,571	1,412,616
5—	8,061	20,561	28,622	315,427	963,900	1,279,327
10—	7,880	19,876	27,756	280,134	856,854	1,136,988
15—	7,486	18,474	25,960	236,408	722,703	959,111
20—	6,749	16,711	23,460	187,555	586,222	773,777
25—	11,955	28,865	40,820	274,606	847,476	1,122,082
35—	9,635	21,639	31,274	168,998	486,878	655,876
45—	6,647	14,276	20,923	86,345	233,413	319,758
55—	3,390	7,554	10,944	32,002	82,414	114,416
65—	1,268	3,093	4,361	7,938	21,898	29,836
75—	197	622	819	835	2,737	3,572
85 & up	19	50	69	59	129	188
All ages	72,296	174,508	246,804	1,935,352	5,872,195	7,807,547
Females						
0—	9,499	23,040	32,539	393,354	1,131,034	1,524,388
5—	8,369	21,075	29,444	355,431	1,033,518	1,388,949
10—	8,107	20,592	28,699	316,497	933,435	1,249,932
15—	7,862	19,718	27,580	275,642	813,762	1,089,404
20—	7,412	19,288	26,700	231,477	717,514	948,991
25—	12,003	31,743	43,746	313,878	1,000,539	1,314,417
35—	9,541	23,301	32,842	191,679	570,875	762,554
45—	6,973	16,464	23,437	103,200	294,212	397,412
55—	3,950	9,584	13,534	41,357	115,966	157,323
65—	1,698	4,648	6,346	12,616	35,604	48,220
75—	328	1,053	1,381	1,732	5,128	6,860
85 & up	27	117	144	97	376	473
All ages	75,769	190,623	266,392	2,236,960	6,651,963	8,888,923
Total...	148,065	365,131	513,196	4,172,312	12,524,158	16,696,470

These figures have a direct and an important bearing on the vital statistics of the City; and this may be shown in either of two ways. In the first place $\frac{\text{Life Capital}}{\text{Population}}$ = average life capital or future lifetime of each member of the population; and, in the second place, since mean population has been shown to be equal to years of life expended in a year, $\frac{\text{Population} \times 100}{\text{Life Capital}}$ = proportion per cent. of life capital expended in a year.

	Average Life Capital of the population			Proportion per cent. of Life Capital expended in a year		
	Manchester Township	Outlying Townships	City of Manchester	Manchester Township	Outlying Townships	City of Manchester
	Years	Years	Years			
Persons	28·18	34·30	32·53	3·549	2·915	3·074
Males ..	26·77	33·65	31·63	3·736	2·972	3·161
Females	29·52	34·90	33·37	3·387	2·866	2·997

This table is in reality the application of the Life Tables to the existing population of the City. It shows that so long as the age constitution remains as at the last census enumeration, and the death-rates at the various ages as in the decennium 1881–90, the average life capital of the population of Manchester Township, taking young and old together, is 28·18 years; and that under the same conditions the ordinary expenditure of this capital per annum is 3·549 per cent.

If now we calculate for any period the number of deaths which should have occurred in each age-group at the rates of 1881–90, and compare them with the deaths which actually occurred during the period, the differences between the two sets of figures will be the numbers of lives saved or lost by the fluctuations of mortality in the given period; and by means of the figures in the table on page 23, we can ascertain the gain or loss of life capital due to those fluctuations of mortality. The table on next page shows the balance of gain and loss in the three years 1891–92–93.

At first sight it may appear that some of the results in this table are mutually contradictory; a short examination of the most extreme case will however show that, far from there being any discrepancy, they present a new order of facts of great practical importance. The actual deaths of males in Manchester Township in the three years exceeded the calculated number by only 10, while the consequent loss of life capital is shown as 1,334 years; and it may not unnaturally be objected that there is something wrong in estimating the value of these 10 lives at 133·4 years each. But let us see how the numbers are made up. There was a loss of 262 lives of male children under 5 years of age, this being the excess of the actual over the calculated deaths in that age-period; there was a gain of 422 lives of males between 5 and 65 years of age, and a loss of 170 lives of males over 65 years of age. The equivalents in future lifetime were a loss of 10,035 years, a gain of 9,654 years, and a loss of 953 years respectively; thus, among those under 65 years of age there was a gain of 160 *lives*, but an actual loss of 381 *years of future lifetime*: the 262 lives under five years of age which were lost being worth an average of 38·30 years each, while the 422 lives between 5 and 65 years of age which were gained were worth an average of only 22·87 years each. The gain or loss of life capital depends then, not simply on the *number* of lives saved or wasted, but on the value of those lives to the community. And this consideration adds new force to our contention that the infantile

	Deaths Calculated according to mean rates, 1881–90*		Actual deaths in the three years, 1891–2–3		Gain (+) or Loss (-) of lives in the three years by fluctuations of mortality		Gain (+) or Loss (-) of Life Capital in the three years by fluctuations of mortality		
	Manchester Township	Outlying Townships	Manchester Township	Outlying Townships	Manchester Township	Outlying Townships	Manchester Township	Outlying Townships	City of Manchester
MALES							Years of Life	Years of Life	Years of Life
0— ...	2,802	5,253	3,064	5,557	−262	−304	−10,035	−14,242	−24,277
5— ...	201	455	182	361	+ 19	+ 94	+ 743	+ 4,407	+ 5,150
10— ...	105	204	84	177	+ 21	+ 27	+ 747	+ 1,164	+ 1,911
15— ...	165	262	133	266	+ 32	− 4	+ 1,011	− 156	+ 855
20— ...	195	299	150	283	+ 45	+ 16	+ 1,251	+ 561	+ 1,812
25— ...	617	756	479	751	+138	+ 5	+ 3,170	+ 147	+ 3,317
35— ...	845	1,020	719	1,136	+126	−116	+ 2,210	− 2,610	− 400
45— ...	888	1,092	850	1,216	+ 38	−124	+ 494	− 2,027	− 1,533
55— ...	752	1,051	749	1,131	+ 3	− 80	+ 28	− 873	− 845
65— ...	442	897	559	997	−117	−100	− 732	− 708	− 1,440
75— ...	120	325	170	381	− 50	− 56	− 212	− 246	− 458
85 and up	15	50	18	55	− 3	− 5	− 9	− 13	− 22
All ages...	7,147	11,664	7,157	12,311	− 10	−647	− 1,334	−14,596	−15,930
FEMALES									
0— ...	2,517	4,448	2,779	4,653	−262	−205	−10,849	−10,063	−20,912
5— ...	196	459	190	358	+ 6	+101	+ 255	+ 4,953	+ 5,208
10— ...	105	213	80	167	+ 25	+ 46	+ 976	+ 2,085	+ 3,061
15— ...	150	261	114	245	+ 36	+ 16	+ 1,262	+ 660	+ 1,922
20— ...	180	314	148	314	+ 32	...	+ 999	...	+ 999
25— ...	487	775	419	752	+ 68	+ 23	+ 1,778	+ 725	+ 2,503
35— ...	614	924	551	931	+ 63	− 7	+ 1,266	− 172	+ 1,094
45— ...	734	991	654	1,061	+ 80	− 70	+ 1,184	− 1,251	− 67
55— ...	704	1,157	755	1,288	− 51	−131	− 534	− 1,585	− 2,119
65— ...	515	1,155	580	1,198	− 65	− 43	− 483	− 329	− 812
75— ...	150	513	205	612	− 55	− 99	− 290	− 482	− 772
85 and up	18	93	27	105	− 9	− 12	− 32	− 39	− 71
All ages...	6,370	11,303	6,502	11,684	−132	−381	− 4,468	− 5,498	− 9,966
TOTAL...	13,517	22,967	13,659	23,995	−142	−1,028	− 5,802	−20,094	−25,896

death-rate is one of the best tests of sanitary condition ; and not only is it such a test, but a heavy death-rate among children represents an enormous waste of the life capital of the population.

The method here introduced in a simple form is capable of considerable extension. It would not be difficult to compute from the Life Tables the average years of life that will be lived *between any specified ages.* For instance, if 20 to 65 be taken as the working period of life, we can calculate how many years of *working life* will on an average be lived by children now under 5, between 5 and 10, &c. In this way we could estimate what may be called the working life capital ; and, in the same way as above, we could calculate the number of years of working life capital gained or lost in any year or series of years. Considerations of time and space, however, render it impossible to follow out here all the practical uses to which the Life Tables readily lend themselves. It is sufficient to have indicated some of the most important and striking of these uses, and to have proved (if further proof were necessary) that in the Manchester Life Tables the sanitary authority possesses a remarkably powerful instrument for statistical investigation. By its aid we have already shown how much of the best and most useful part of human life is wasted owing to the life conditions of the city, and we have now indicated how it may be used as a measure of future sanitary progress or regress.

PART III.

MARRIAGES.

The exact number of marriages taking place in recent years within the City boundaries is not known. But if the marriages registered in the three Unions, which are here taken as approximately equal to Manchester City, be calculated on the total population of these Unions, a rate will be obtained which will not seriously differ from what the City rate would probably be, supposing it to be ascertainable. Computed in this way, the mean rate of persons married in the years 1891, 1892, and 1893 was equal to 17·2 per 1000 persons living. In the year 1888 the marriage-rate did not exceed 16, which was the lowest rate recorded here during the 18 years from 1871–93 at the fewest, and probably during many more.* From 1888 to 1892 the rate increased from 16·0 to 17·2, but in the year 1893 it again fell to the first-mentioned figure.

BIRTHS.

The births registered in the City of Manchester during the year 1891 numbered 17,208, 17,162 in the year 1892, and 17,275 in the following year. These births corresponded to an annual rate of 33·8 per 1,000 in the first, 33·4 in the second, and 33·4 in the third year, the average rate in the quinquennium 1886-90 being also 33·4. From 1871 the Manchester birth-rate steadily rose, until in 1876 it attained its highest point, 40·0 per 1,000. From that year the rate almost steadily fell until the year 1890, when it reached its lowest point, namely, 31·8. Taking the average proportions in the three years 1891-93, nine of the townships comprising Manchester have birth-rates in excess of the mean, the Township of Beswick having a birth-rate in excess by nearly nine per 1,000; whilst of the remaining eight townships with birth-rates below the average, Rusholme has a rate of 25, Moston of 26, Crumpsall of 27, Chorlton-upon-Medlock of 28, Blackley of 29, Central Manchester of 30, and Cheetham and Clayton of 32.

Of the 51,645 births† in the three years, 26,337 were males and 25,308 females; the male births being to the female as 1,041 to 1,000. The infants returned as born out of wedlock in the three years under notice numbered 2,073, and were in the proportion of 4 per cent. of the total births. The illegitimate births occurring in the three workhouses have been extracted from the Workhouse Registers, and referred to the townships from which the mothers came. Otherwise these districts would appear to have a proportion of illegitimate births vastly in excess of what they deserve. The Central District of Manchester and the Township of Chorlton-upon-Medlock are the areas in which the rate of illegitimacy was highest in the three years referred to.

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* There are no records of marriage-rates available to me for years anterior to 1871.—J.T.

† Births
1891—Males 8,755, Females 8,453.
1892—Males 8,823, Females 8,339.
1893—Males 8,759, Females 8,516.

DEATHS.

Death Register in the Public Health Office.

The deaths returned by the fifteen District Registrars who supply periodical returns to the Medical Officer of Health numbered 13,456 in the year 1891, 12,189 in 1892, and 12,865 in 1893. These figures include the deaths of Manchester citizens occurring at the Pendlebury Hospital, the Prestwich Lunatic Asylum, and the workhouses of Withington and Ashton-under-Lyne, all of which institutions† are outside the City boundaries. They also include the deaths of 254 non-residents in 1891, of 296 in 1892, and of 306 in 1893, which took place in institutions within the City. From the Register in the Public Health Office these latter deaths have been excluded; and the corrected numbers for the years 1891, 1892, and 1893 now stand as 13,202, 11,893, and 12,559 respectively.

Mortality in the City of Manchester.

Calculated on the population estimated to be living at the middle of each year, the annual rate of mortality in Manchester was equal to 25·95 per 1,000 persons living in 1891, to 23·17 in 1892, and to 24·26 in 1893; the average rate in the three years being 24·46, and the average rate in the decade 1881–90 24·1 per 1,000. The death-rate in the old City area during this decade averaged 26·6 per 1,000, which exceeds the rate for the same period in the three districts now taken for comparison with the enlarged City by 2·5 per 1,000.

Mortality in different parts of the City.

It is found that, speaking generally, the areas of our large towns—which were adopted, perhaps long ago, for municipal or for poor-law purposes—are but imperfectly adapted for medico-statistical inquiry. It often happens, for example, that although the greater part of a ward, or township, or parish is very healthy, and in all respects satisfactory, nevertheless the area contains localities which are most insanitary. The death-rate of the entire area, however, frequently gives no indication of the unhealthy condition of its parts, unless the mortality of the latter is so remarkable as to attract special attention.

With a view of ascertaining what is the actual mortality of certain of the most notoriously unhealthy parts of Manchester, I have caused to be constructed a map (page 160) on which are grouped the Enumeration Districts of the 1891 Census in such manner as to show, by appropriate colouring, which are really the black spots of the City. The map has thus been constructed. At the Census of 1891 the City was divided into enumeration districts, each containing roughly about 200 houses. The deaths in each of these districts were extracted from the Registers for the three years 1888, 1889, and 1890, and the populations as enumerated at the Census of 1891 were applied to the deaths so as to obtain the average annual mortality of each enumeration district. The enumeration districts were afterwards grouped together and plotted on the map as shown on page 160, and the boundaries of the several groups are given in the table at page 125.

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† For deaths in Public Institutions, see Table 2, page 15.

Reference to the group in the left hand lower corner of the map will show that there are considerable areas in the City of Manchester where the conditions of life are so unsatisfactory that the people die there at the average rate of 52, 56, and even 58 per 1,000! This map seems to me to speak for itself, and I trust that it will prove useful to the Corporation of Manchester in connection with their future action for the improvement of the dwellings of the poor.

TABLE 6.—YEARS 1891-93.—RECORDED AND CORRECTED AVERAGE DEATH-RATES PER 1,000 PERSONS LIVING.

Groups of Civil Parishes in the Sub-Districts of Manchester, arranged in order of their corrected Death-rates	* Standard Death-rate	† Factor for correction for Sex and Age Distribution	Recorded Death-rate, 1891-3	‡ Corrected Death-rate, 1891-3	§ Comparative Mortality Figure
Moston	17·72	1·0807	15·58	16·84	865
Cheetham and Crumpsall	17·91	1·0693	15·97	17·08	877
Clayton	17·71	1·0815	21·01	22·72	1,167
Blackley and Harpurhey	17·16	1·1157	20·78	23·18	1,191
Ardwick, Openshaw, West Gorton, and Rusholme	16·81	1·1374	21·35	24·28	1,247
Newton Heath, Bradford, Beswick, and Kirkmanshulme	17·08	1·1211	22·75	25·50	1,310
Chorlton-upon-Medlock	16·29	1·1755	21·73	25·54	1,312
Hulme	16·93	1·1309	25·88	29·27	1,503
St. George's	16·89	1·1340	29·75	33·73	1,732
Central	16·25	1·1782	30·33	35·73	1,835
Ancoats	16·83	1·1381	32·44	36·92	1,896
England and Wales	19·15	1,000	19·47	19·47	1,000

* The standard death-rate signifies the death-rate at all ages calculated on the hypothesis that the rates at each of twelve age periods in each town were the same as in England and Wales during the ten years 1881-90, the death-rate at all ages in England and Wales during that period having been 19·15 per 1,000.

† The factor for correction $\left\{=\frac{19\cdot15}{\text{Standard death-rate}}\right\}$ is the figure by which the recorded death-rate should be multiplied in order to correct for variations of sex and age distribution.

‡ The corrected death-rate is the recorded death-rate multiplied by the factor for correction.

§ The comparative mortality figure represents the corrected death-rate in each town compared with the recorded death-rate at all ages in England and Wales in 1891–93 taken as 1,000.

Correction of District Rates of Mortality.—When the gross annual death-rates of a large City like Manchester are compared with one another from year to year, or from decade to decade, they form a fairly reliable index of the health conditions obtaining in the several periods compared. But when the attempt is made to compare for one and the same period the mortality of one township with that of another, it becomes necessary to take serious account of certain disturbing factors which, unless allowed for, will render worthless the most elaborate system of death-rates, if these are depended upon as the sole lists of the relative healthiness of such areas. The most important of these disturbing factors are (*a*) the indiscriminate massing together of institution deaths in those districts which contain large workhouses or hospitals—this disturbing factor has been treated of at page 14—and (*b*) the usually wide variations in regard to age and sex constitutions which exist in different populations.

The tables (J) at pages 108 to 110 show that in 1891, '92, and '93, the recorded general rates of mortality—by which is meant the proportion of deaths to 1,000 persons living, without distinction of age or of sex—varied enormously in the several sub-divisions of the City. It is important to enquire whether these death-rates in a crude form admit of comparison with one another; and if not, what is the nature and extent of the correction required in order to render them fairly comparable.

The Registrar General has shown* that "any comparison made between different towns in regard to the healthiness of their respective populations, if based simply on their general death-rates,.........is liable to lead to a more or less erroneous conclusion unless it has been previously ascertained that the towns thus put into comparison show no material differences from each other in respect of the age and sex distributions of their populations; for it is evident that if the death-rates at each successive age-period be precisely alike in two towns, but in the population of one of them there be a much larger proportion either of very young or of very old persons than in the population of the other, the general death-rate will almost certainly be higher in the former than in the latter, inasmuch as the average mortality of the very young and the very old is much higher than that of persons of intermediate ages; and so also will it be if one town have a much larger proportion of males than the other, inasmuch as the male death-rate is almost invariably higher than the female death-rate."

It will be readily conceded that the Registrar General's argument, if it be available for different towns when placed in comparison, is to some extent applicable to different areas in the same town. Accordingly, this system of correction has been applied to certain administrative areas in Manchester, and the results are given in the accompanying table. The method by which these death-rates are corrected may thus be explained. The age and sex distributions of the several areas dealt with in the table were ascertained at the Census of 1891.

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* Registrar General's Annual Summary, 1892, page 111.

The average annual death-rates at twelve age-groups in England and Wales during the last ten years have been applied to the district populations at the several ages, and thus the death-rates in column 3 have been obtained. These rates, which are called by the Registrar General "standard rates," are those which would have been recorded in the several districts had their male and female populations at the several ages been equally healthy with the population of England and Wales in 1881–90. The differences between these standard rates are due exclusively to the varying constitution of the several populations with respect to sex and age. In order to obtain an expression for the correction of these inherent differences in standard rates, so that the recorded rates of different places may be rendered comparable with one another as measures of healthiness, the Registrar General obtains what he terms a "factor for correction," by dividing the annual death-rate in England and Wales by the standard death-rates of the several places to be compared. The recorded death-rates are then multiplied by these several factors, and thus corrected death-rates are obtained. On applying this system to the recorded death-rates of the several Registration Sub-districts of Manchester, it is seen that the death-rates of these districts are in every case increased by the correction, and that when these corrected death-rates are compared with the rate for England and Wales they show in most cases far greater differences than do the uncorrected rates of the same districts. The table on page 30 is highly interesting: it shows that after making approximate correction for age and sex constitution of the several district populations, the death-rates in the older districts of the City are in certain cases more than double the rates in some of the outlying townships, and these differences may safely be taken as expressions of similar differences in the degrees of healthiness possessed by the several areas. In column 5 of the table the corrected death-rates of the several Manchester districts are contrasted with those of England and Wales, taken as 1,000; and by reference to that column it appears that, as compared with this standard, the death-rates in our two most unhealthy districts are in excess respectively by 84 and 90 per cent.

MALE AND FEMALE MORTALITY.

Of the 37,654 persons whose deaths were recorded in Manchester during the last three years, 19,468 were males and 18,186 females. The annual death-rate among males was equal to 26·3 per 1,000 of the male population, whilst among females the proportion did not exceed 22·8. In Vol. III. of the Census Report, which has recently been issued, a useful table is given (Table 3, page 332), in which the numbers of males and females living at each of 12 age-groups are given for every one of the Urban Sanitary Districts of England and Wales. From these tables it is easy to calculate the proportions of each sex living at stated ages. This has been done for Manchester,* with the object of obtaining rates of mortality for the Weekly, Quarterly, and Annual Health Reports.

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* See Table, page 11.

The excess of mortality in great towns is generally greater amongst the male than amongst the female population. In Manchester the excess of female mortality is greater than it is in many other manufacturing towns, and especially than in those towns where the employment in factories of female labour is less common than with us.

Mortality in Infancy and Childhood.

Infantile Mortality.—The mortality to which very young children are subject is commonly accepted by sanitarians as the most sensitive test of what is generally known as sanitary condition; accordingly, the several rates of infantile mortality have been calculated with considerable care and precision for each of the divisions of Manchester, and the detailed table on the following page is the result.* By the term Infantile Mortality is meant the proportion of infantile deaths under one year of age to 1,000 births. This ratio is easily understood, and the calculation has the advantage of being independent of population estimates, which are seldom more than approximations to the truth, and may be seriously wide of it. Infantile mortality in Manchester, calculated on the above-mentioned principle, was equal in the year 1891 to 192 per 1,000 births, and to 178 and 201 respectively per 1,000 in the two succeeding years, as compared with 179 in the decennium closed with 1890. As will be seen on reference to the table referred to, the rate of infant mortality varied considerably in different parts of the City during the same period. For whereas in the North Division of the City it was 164 per 1,000 on the three years average, it ranged upwards to 184 in South Manchester and to 222 in the Manchester Township. In the year 1893, infantile mortality throughout England and Wales was equal to 159 per 1,000, which is in excess of the average rate by 15 per 1,000. In London the rate in the same year was 164, which is 11 per 1,000 in excess of the average rate in the previous decade. In the 33 Great English Towns of the Registrar General the rate was 181 per 1,000, or 20 less than the Manchester rate. In the 67 Smaller English Towns it was 173, and 139 in the Rural Districts.

The table following (page 34) gives the rates of infant mortality in the City of Manchester and in its three main divisions during 1891, 1892, and 1893 from the principal diseases to which infants are subject.*

Illegitimacy in relation to Infantile Mortality.—The tables on pages 111 to 113 show that of the 51,645 infants born in Manchester during the last three years, not fewer than 2,073 were the offspring of unmarried parents. Of the infants born out of wedlock in the course of this period, there died within their first year's existence 851. In other words, 411 per 1,000 of these little unfortunates perished! The average death-rate amongst illegitimate infants was highest (averaging 437 per 1,000) in South Manchester, and next highest (404) in the Manchester Township, North Manchester coming not far behind with a death-rate of 377. Amongst children born in wedlock, the death-rate averaged 181 per 1,000.

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* See also tables on pages 111 to 113.

TABLE 7.—INFANTILE MORTALITY IN MANCHESTER CITY, AND ITS THREE MAIN DIVISIONS,* 1891–93.

DEATH-RATES UNDER ONE YEAR PER 1,000 BIRTHS.

Causes of Death	City of Manchester			Manchester Township			North Manchester			South Manchester		
	1891	1892	1893	1891	1892	1893	1891	1892	1 93	1891	1892	1893
All Causes	191·71	178·24	201·39	231·63	210·67	222·41	164·23	152·39	175·93	180·42	171·05	201·07
Measles	2·44	4·66	4·23	3·10	7·95	4·98	3·94	3·00	5·70	1·16	3·39	2·93
Whooping Cough	11·27	8·45	5·21	12·60	8·34	6·51	9·03	8·54	4·04	11·64	8·47	4·97
Other Com: Infec: Dis:†	0·87	0·87	1·51	0·58	1·94	1·72	1·62	0·92	2·14	0·65	0·13	1·02
Diarrhœa	15·63	16·43	35·48	19·19	19·98	37·93	13·90	14·78	32·53	14·23	14·98	35·45
Tubercular Diseases‡ ..	11·27	10·14	12·16	10·47	9·31	10·92	6·72	6·23	8·78	14·36	12·90	14·79
Convulsions	26·62	16·84	14·24	30·43	19·40	17·24	18·30	15·24	9·26	28·71	16·02	14·92
Other Nervous Dis:§ ..	3·78	4·43	4·75	6·40	5·24	5·17	2·08	4·85	5·46	2·97	3·65	4·08
Lung Diseases	44·74	35·02	33·46	49·82	41·32	40·42	41·46	29·32	26·59	43·20	34·00	32·51
Wasting Diseases‖......	39·40	46·91	51·58	49·04	54·51	55·36	32·89	39·02	48·20	36·60	46·25	50·87
Suffocation	1·92	0·58	1·10	3·68	0·97	3·07	0·93	0·46	0·24	1·29	0·39	0·26
Found dead in bed ...	6·68	6·64	5·50	10·08	9·70	6·32	5·33	4·39	3·80	5·17	5·86	5·87

* For Infantile Mortality in Townships, see pages 111 to 113.

† These are Smallpox, Scarlatina, Diphtheria, Membranous Croup, and various forms of "Fever," including the chief form of Typhus and Typhoid.

‡ These are Phthisis, Tubercular Meningitis (Hydrocephalus), Tabes Mesenterica, and General Tuberculosis (Scrofula).

§ These are Meningitis, and other diseases of the Brain and Spinal Cord.

‖ These are Premature Birth, and such ill-defined cases as Atrophy, Marasmus, Debility, Inanition, &c.

Mortality of Childhood.—Next in importance to infantile mortality as a measure of sanitary progress stands what has for some years been known in Manchester as the "Child death-rate," *i.e.*, the annual rate of mortality amongst children under five years old per 1,000 of the population estimated to be living at that age. The three tables on pages 102 to 104 show the number of children dying in 1891–93 at the following early ages from all causes, and from each of the commoner diseases peculiar to infancy: (1) under 3 months, (2) from 3 to 6 months, (3) from 6 to 12 months. The tables also show the deaths from the same causes in each succeeding year from the first to the fifth. The table on page 116 shows, *inter alia*, the annual rates of mortality from all causes and from certain specified causes amongst children under five years of age in each of the years 1891, '92, and '93; and the tables on pages 117 to 119 show the same facts for the three main districts of the City.

Senile Mortality.

Of the 37,654 persons at all ages whose deaths were registered as belonging to Manchester in the years 1891–93, 4,907 were returned as having either attained or exceeded the age of 65 years. Calculated on the population estimated to be living at ages over 65 years, these deaths are equal to a rate of 124·7 per 1,000, which is much heavier than the rate obtaining during the first five years of life.

Mortality in other parts of the Kingdom.

The annual rate of mortality at all ages in England and Wales was equal to 20·2 per 1,000 of the estimated population in the year 1891, to 19·0 in the year 1892, and to 19·2 in the year 1893. The death-rates in London during these years were 21·4, 20·6, and 21·3 per 1,000. In Dublin the rates were 26·5, 29·3, and 27·0; in Edinburgh 21·6, 19·4, and 19·8; and in Glasgow 25·3, 22·7, and 23·4 respectively. In the 33 Great English Towns of the Registrar General, which are estimated to contain an aggregate population exceeding ten millions, the rate of mortality in 1891-93 averaged 21·5 per 1,000, which is lower by 3 per 1,000 than the Manchester rate. Of the 33 Great English Towns, only three had uncorrected death-rates in excess of Manchester, the remaining 29 towns experiencing a mortality in most cases far below our own. In the 50 or 67 smaller town-districts of England, containing a population now approaching four millions—statistics for which are published by the Registrar General—the rate of mortality in 1891-93 was equal to 19·7 per 1,000, or 4·8 below the Manchester rate. In those parts of England and Wales which lie outside the principal towns, and correspond to "Rural England," the rate of mortality averaged only 18·1 per 1,000, which is not less than 6·4 per 1,000 below the rate of our own City.

Corrected Death-rates in the 33 Great Towns of England.—On the opposite page will be found a table, which has been calculated from Table A of the Registrar General's last three annual summaries, in which table the 33 Chief Towns of England are arranged in the order of their *corrected mean death-rates.* It will at once be seen that whilst there are only comparatively few towns in the list that are more healthy than the country generally, at the bottom of the list there are four towns so unfavourably circumstanced as to be subject to a mortality which is in excess of that of England and Wales by upwards of 40 per cent.

Classification of Causes of Death.

Deaths from Specified Causes.

The 37,654 deaths from all causes registered in the years 1891, '92, and '93, may thus be classified*:—6,296 deaths or 17 per cent. of the total mortality are referred to the Specific Febrile or Zymotic Class; 6,149 deaths or 16 per cent. to the Constitutional Class; 1,977 or 5 per cent. to the Developmental Class; 19,170 or 51 per cent. to the Local Class; whilst 2,632 or 7 per cent. are undistributed.

The deaths which according to this system remain unclassified are those which have been returned by the Registrars as due to dropsy, sudden death, wasting, marasmus, "found dead in bed," &c. It has therefore been thought advisable to place in a group by themselves the deaths thus imperfectly described.

In the table at foot are given the average annual rates of mortality per 1,000 persons living during the years 1891–93 from all causes and from the principal classes of disease, and in the Summary Table on page 95 the deaths are given from the various sub-classes of diseases.

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* Classification of Causes of Death, 1891-93.

	Classes of Diseases	Deaths	Percentage of total deaths	Annual Rate per 1,000 living
I.	Specific Febrile, or Zymotic Diseases	6,296	16·72	4·09
II.	Parasitic Diseases	24	0·06	0·02
III.	Dietetic Diseases	216	0·58	0·14
IV.	Constitutional Diseases	6,149	16·33	3·99
V.	Developmental Diseases..................	1,977	5·25	1·28
VI.	Local Diseases	19,170	50·91	12·45
VII.	Violence	1,190	3·16	0·77
VIII.	Ill-defined and not specified causes ...	2,632	6·99	1·71
	All causes	37,654	100·00	24.46

TABLE 8.—RECORDED AND CORRECTED DEATH-RATES PER 1,000 PERSONS LIVING IN 33 GREAT TOWNS. AVERAGE OF THREE YEARS, 1891–92–93.

TOWNS in the order of their Corrected Average Death-rates	Standard Death-rate	Factor for correction for Sex and Age distribution	Recorded Average Death-rate, 1891-92-93	Corrected Death-rate, 1891-92-93	Comparative Mortality Figure, 1891-92-93
	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5
England and Wales	19·15	1·0000	19·47	19·47	1,000
England and Wales less the 33 Towns	19·45	0·9846	18·91	18·62	956
33 Towns	17·71	1·0813	21·16	22·88	1,175
Croydon	18·37	1·0424	15·71	16·38	841
Norwich	19·99	0·9579	19·53	18·71	961
Brighton	18·94	1·0110	18·60	18·80	966
Portsmouth	18·73	1·0224	18·56	18·98	975
Plymouth	19·70	0·9720	20·83	20·25	1,040
West Ham	17·75	1·0788	18·86	20·35	1,045
Nottingham	17·81	1·0752	18·96	20·39	1,047
Derby	17·36	1·1031	18·54	20·46	1,051
Bristol	18·33	1·0447	19·78	20·66	1,061
Leicester	17·64	1·0855	19·90	21·60	1,109
Hull	18·23	1·0504	20·82	21·87	1,123
Gateshead	17·83	1·0740	20·45	21·96	1,128
Halifax	17·20	1·1133	19·90	22·15	1,138
Birkenhead	17·42	1·0993	20·29	22·30	1,146
London	17·97	1·0656	21·13	22·52	1,156
Cardiff	17·16	1·1159	20·20	22·54	1,158
Huddersfield	16·47	1·1627	19·42	22·58	1,160
Swansea	17·53	1·0924	20·68	22·59	1,160
Bradford	16·73	1·1446	20·37	23·32	1,198
Newcastle	17·58	1·0892	21·50	23·42	1,203
Birmingham	17·33	1·1050	21·51	23·77	1,221
Sunderland	18·25	1·0493	22·83	23·96	1,230
Leeds	17·28	1·1082	21·65	23·99	1,232
Wolverhampton	18·30	1·0464	22·99	24·06	1,236
Burnley	16·67	1·1487	21·30	24·47	1,257
Sheffield	17·22	1·1120	22·35	24·85	1,276
Bolton	16·90	1·1331	22·94	25·99	1,335
Oldham	16·72	1·1453	22·90	26·23	1,347
Blackburn	17·05	1·1231	23·59	26·49	1,361
Manchester	16·90	1·1331	24·46	27·72	1,424
Salford	17·03	1·1244	24·91	28·01	1,439
Preston	17·42	1·0993	25·94	28·52	1,465
Liverpool	17·26	1·1094	26·35	29·23	1,501

Comparative Nosological Tables.

The three tables (B) on pages 83 to 94, which are abridged from the classified list of diseases issued by the Royal College of Physicians, furnish the means of comparing the mortality in Manchester from various causes in the year 1891 with that of the two subsequent years. The following statement (Table 9), taken from columns 1 and 2 of these tables, and from the official registers of the previous ten years, shows at a glance the number of lives saved and the number lost in 1891, '92, and '93 respectively, as compared with the average annual deaths in the previous decade, the necessary adjustment having been made for increase of population.

CLASS I.—ZYMOTIC OR SPECIFIC FEBRILE DISEASES.

To this important class of diseases not fewer than 6,296 deaths were referred in the City of Manchester during 1891, '92, and '93. These deaths were in the proportion of 16·72 per cent. of the total deaths, and of 4·09 per 1,000 of the population at all ages.

Smallpox.

Although this disease was prevalent throughout the year 1891 in many of the towns and districts of Lancashire and Yorkshire, nevertheless, the cases imported into Manchester during the year did not exceed two, and as these were promptly reported and isolated, the disease did not obtain a foothold in the City. Far otherwise was it in the succeeding year. During the first half of 1892 only five known cases of Smallpox occurred in Manchester, although the disease was known to be exceedingly prevalent in the surrounding districts. All of these cases were promptly isolated in hospital, and in one instance only of the five did infection spread from the patient first affected.

In the last week of August a sharp, though happily limited, outbreak of Smallpox occurred at Failsworth, a district lying just outside the northern boundary of the City. From the 25th to the 31st August nine cases of Smallpox were removed from that district to Monsall, and four more from the 6th to the 9th September. From this centre infection spread across the municipal boundary, and from the last-mentioned date until the end of September as many as nine cases occurred within the City of Manchester. The disease having thus obtained a foothold, conditions were favourable for its spread, and accordingly we find that cases cropped up week after week, until in the early part of December a sudden outburst took place, which subsequent events prove to have been the precursor of a still further spread of Smallpox since the close of the year 1892.

TABLE 9.—DIMINUTION OR EXCESS OF DEATHS IN 1891, 1892, AND 1893, AS COMPARED WITH THE AVERAGE ANNUAL DEATHS IN 1881-90*; CORRECTED FOR DIFFERENCES OF POPULATION.

CAUSE OF DEATH	1891		1892		1893	
	Diminution	Excess	Diminution	Excess	Diminution	Excess
Smallpox	13	...	11	...	...	35
Measles	174	...	29	...	108	...
Scarlet Fever	138	...	115	...	117	...
Diphtheria	...	13	19	...	...	11
Whooping Cough	...	210	...	57	74	...
Typhus Fever	9	...	15	...	16	...
Enteric Fever	...	61	5	...	3	...
Simple Continued Fever	5	...	8	...	8	...
Diarrhœal Diseases	96	...	115	...	...	418
Cancer	...	32	...	20	...	9
Tabes Mesenterica	55	...	77	...	50	...
Phthisis	67	...	142	...	145	...
Other Tubercular Diseases	...	103	...	88	...	92
Diseases of Nervous System	42	...	381	...	351	...
,, ,, Circulatory System	..	175	...	150	...	58
,, ,, Respiratory System	...	597	80	...	31	...
,, ,, Digestive System	101	...	46	...	17	...
,, ,, Urinary System	...	3	7	...	11	...
,, ,, Generative System	6	...	17	...	5	...
Puerperal Fever	2	...	...	10	...	8
Childbirth	...	33	...	42	...	31
All other causes	...	349	...	146	...	276
All causes	707	1,575	1,067	513	936	938
Balance of Diminution and Excess	...	865	554	...	...	2

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* As in the other tables, the average rates for 1881-90 are those for the Registration Districts of Manchester. Chorlton, and Prestwich. The rates for 1891, '92, and '93 are those for the extended City of Manchester.

Altogether, 118 cases of Smallpox actually occurred within the municipal boundaries, and 25 cases were received from outside districts into Monsall Hospital, in the course of the year 1892. Two of the reported attacks turned out to be cases of other diseases. Of the 118 City cases there were 9 which were not reported until after the close of 1892, consequently they appear in our returns for 1893.

In the course of the year 1893 not fewer than 607 cases of Smallpox occurred within the City, and of these all but 7 were removed to Monsall. In addition to these, however, 76 cases of this disease which had been brought from outside districts were admitted to Monsall by arrangement between the respective Sanitary Authorities and the Board of the Manchester Royal Infirmary.

Whilst this report has been in preparation, Dr. Sidney Coupland, of London, has paid a visit to Manchester on behalf of the Royal Commission on Vaccination, and has spent much time and labour in investigating the Manchester Smallpox Epidemic in its special relations to Vaccination.

As Dr. Coupland has prepared a voluminous report on this subject, it is unnecessary for me to pursue it further than I have already done. I would, however, refer the reader to Dr. Coupland's admirable report, which is published by the Commission, and which leaves nothing to be desired on the score either of minuteness or of accuracy.

In the accompanying list (page 140) of Smallpox cases, all of which eventually found their way either into Monsall Hospital (which is within the City) or elsewhere within our boundaries, a considerable number will be noticed which had their origin in districts outside Manchester. These cases are indicated by italics in the second column of the list.

Scarlet Fever (Scarlatina).

The numbers of attacks by Scarlet Fever reported to the Medical Officer of Health, or otherwise becoming known to him, during the years 1891, 1892, and 1893 were 1,138, 1,671, and 2,031 respectively. Calculated on the estimated population at the middle of each year, the Scarlatina attacks increased in prevalence from 2·24 per 1,000 in the earlier year to 3·25 in the second and 3·92 in the later year.

Seasonal Prevalence of Scarlet Fever.—The following tables show the distribution of Scarlet Fever sickness over the several weeks and quarters of the years 1891-93; *the date of first appearance of rash*, and not the date on which the case was reported to the Health Office, being taken to determine the week in which each attack is considered to have occurred.*

SCARLET FEVER ATTACKS, 1891.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week ending	Attacks	Week ending	Attacks	Week ending	Attacks	Week ending	Attacks
Jan. 10	28	April. 11	14	July 11	10	Oct. 10	21
,, 17	34	,, 18	10	,, 18	21	,, 17	29
,, 24	21	,, 25	16	,, 25	13	,, 24	36
,, 31	31	May 2	19	Aug. 1	9	,, 31	37
Feb. 7	32	,, 9	15	,, 8	12	Nov. 7	51
,, 14	29	,, 16	15	,, 15	18	,, 14	39
,, 21	22	,, 23	15	,, 22	21	,, 21	42
,, 28	28	,, 30	11	,, 29	24	,, 28	20
Mch. 7	24	June 6	13	Sept. 5	21	Dec. 5	31
,, 14	23	,, 13	19	,, 12	27	,, 12	18
,, 21	18	,, 20	20	,, 19	21	,, 19	29
,, 28	10	,, 27	7	,, 26	17	,, 26	19
April 4	22	July 4	13	Oct. 3	27	Jan. 2	16
Total...	322	Total...	187	Total...	241	Total...	388

SCARLET FEVER ATTACKS, 1892.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week ending	Attacks	Week ending	Attacks	Week ending	Attacks	Week ending	Attacks
Jan. 9	26	April 9	33	July 9	37	Oct. 8	67
,, 16	29	,, 16	27	,, 16	23	,, 15	36
,, 23	26	,, 23	42	,, 23	24	,, 22	31
,, 30	21	,, 30	29	,, 30	26	,, 29	41
Feb. 6	24	May 7	34	Aug. 6	20	Nov. 5	44
,, 13	19	,, 14	39	,, 13	35	,, 12	39
,, 20	21	,, 21	44	,, 20	30	,, 19	33
,, 27	26	,, 28	44	,, 27	30	,, 26	38
Mch. 5	24	June 4	27	Sept. 3	36	Dec. 3	37
,, 12	22	,, 11	19	,, 10	38	,, 10	37
,, 19	25	,, 18	31	,, 17	53	,, 17	20
,, 26	20	,, 25	20	,, 24	51	,, 24	30
April 2	36	July 2	27	Oct. 1	54	,, 31	26
Total...	319	Total...	416	Total...	457	Total...	479

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* For this reason the totals in these tables will not agree with those published in the Weekly and Quarterly Health Returns, which latter show the *number of cases reported* in the several periods, without reference to the date of attack.

SCARLET FEVER ATTACKS, 1893.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week ending	Attacks	Week ending	Attacks	Week ending	Attacks	Week ending	Attacks
Jan. 7	24	April 8	21	July 8	39	Oct. 7	61
,, 14	26	,, 15	24	,, 15	36	,, 14	67
,, 21	30	,, 22	31	,, 22	40	,, 21	63
,, 28	42	,, 29	37	,, 29	25	,, 28	51
Feb. 4	31	May 6	50	Aug. 5	41	Nov. 4	62
,, 11	20	,, 13	40	,, 12	30	,, 11	51
,, 18	27	,, 20	42	,, 19	26	,, 18	48
,, 25	25	,, 27	29	,, 26	37	,, 25	38
Mch. 4	37	June 3	34	Sept. 2	46	Dec. 2	48
,, 11	30	,, 10	44	,, 9	51	,, 9	41
,, 18	36	,, 17	30	,, 16	69	,, 16	32
,, 25	22	,, 24	40	,, 23	50	,, 23	34
April 1	28	July 1	28	,, 30	68	,, 30	49
Total...	378	Total...	450	Total...	558	Total...	645

From the above figures it would appear that, disregarding the seasonal fall in the first quarters of the two later years, Scarlet Fever became steadily more prevalent from the Autumn of 1891 down to the end of the year 1893.

SCARLET FEVER ATTACKS, THREE YEARS, 1891–93.

TOWNSHIPS OF MANCHESTER	ATTACKS	ATTACKRATE PER 1,000 LIVING	† CASE FATALITY, PER CENT.	REMOVALS TO HOSPITAL, PER CENT.
Ancoats	296	2·10	11·1	69·9
Central	300	2·63	9·3	80·3
St. George's	588	3·11	8·8	70·7
Cheetham	349	3·98	6·3	55·0
Crumpsall	92	3·87	7·6	63·1
Blackley	103	4·68	7·8	51·5
Harpurhey	100	3·67	9·0	61·0
Moston	53	3·25	7·6	39·6
Newton Heath	498	4·78	7·8	56·2
Bradford	184	2·96	7·1	58·7
Beswick	143	4·75	11·9	72·0
Clayton	34	3·23	8·8	41·2
Ardwick	282	2·63	7·8	56·4
Openshaw	315	4·11	7·3	37·8
Gorton (West)	252	3·30	4·8	49·2
Rusholme and Kirk...	161	3·01	3·1	35·4
Chorlton-on-Medlock..	429	2·38	6·8	54·1
Hulme	661	3·04	7·6	63·2
City of Manchester.	**4,840**	**3·14**	**8·0**	**59·2**

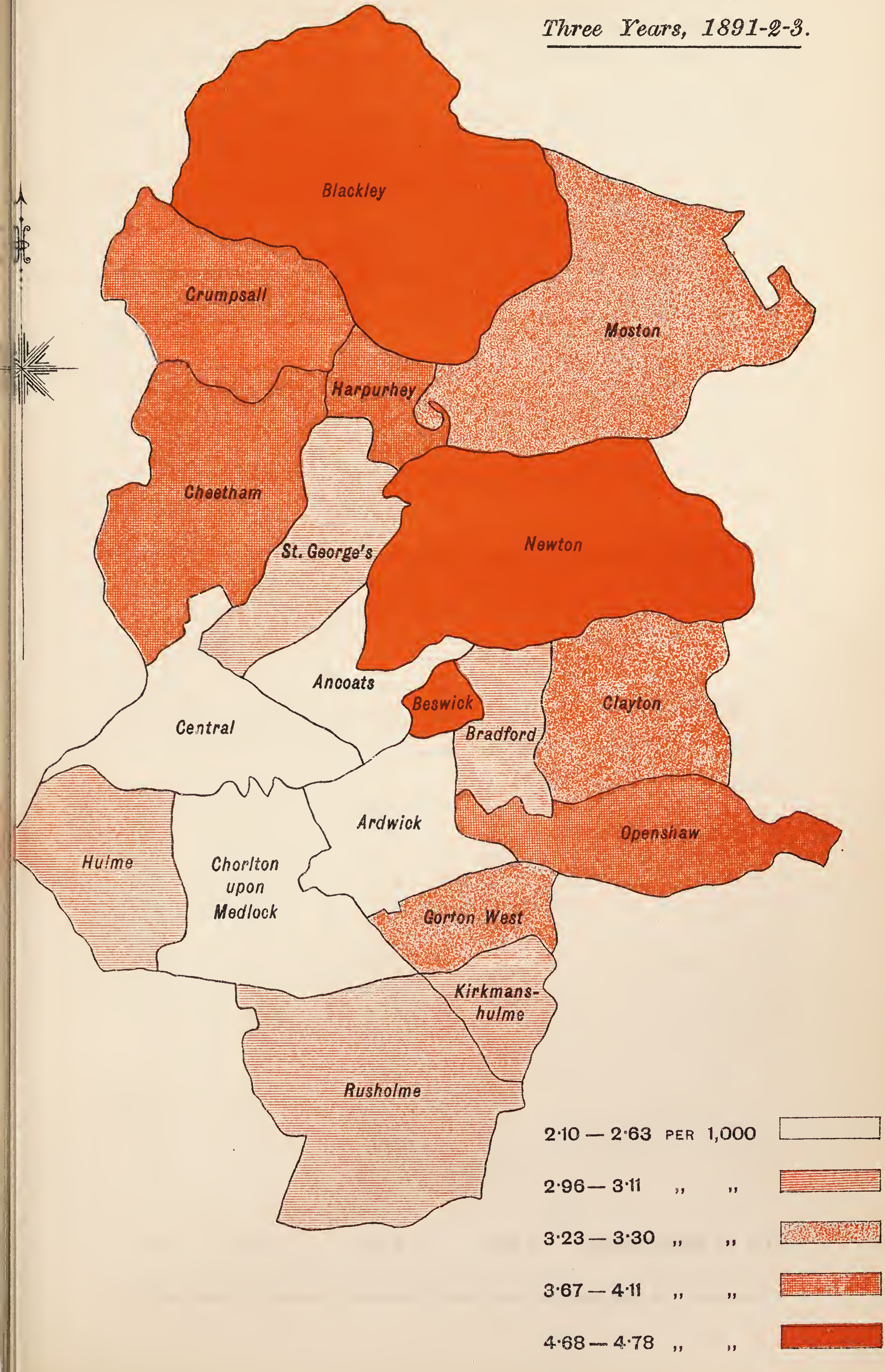
† Corrected: the fatal cases are those actually occurring amongst the cases notified.

GREATER MANCHESTER.

Average Sickness Rates from

SCARLATINA

Three Years, 1891-2-3.



Local Distribution of Scarlet Fever.—The preceding table shows the incidence of Scarlet Fever attacks in the several townships of the City. Column 1 gives the total number of reported cases; column 2 the "attack rate" in each thousand of the population; column 3 the "case fatality," or percentage of deaths to attacks; and column 4 the percentage of infected persons removed to hospital.

Taking the average of the three years, the Township of Newton Heath is that in which Scarlatina showed the heaviest proportional *incidence*, whilst it was in Beswick and in Ancoats that the *intensity* of the disease was greatest, as shown by the fatality amongst the persons attacked. Removals to hospital were relatively most numerous in the district of the Manchester Township and in the Township of Beswick.

Scarlet Fever Maps.—With the help of the table on page 42 the accompanying map has been constructed, which shows, by gradations of colour, the relative incidence of attacks by Scarlet Fever in the several townships of Manchester during the three years 1891, '92, and '93.

Age Distribution of Scarlet Fever Sickness—Case fatality.—The following table shows the age at which patients have contracted Scarlatina in Manchester during the last three years, and also the relative case fatality of the disease at the several ages and groups of ages:—

Scarlet Fever, 1891, 1892, and 1893.

AGES	ATTACKS	DEATHS	CASE FATALITY*
Under one year...	69	10	14·5
1 to 2 years ...	226	39	17·3
2 to 3 ,, ...	337	66	17·5
3 to 4 ,, ...	510	71	13·7
4 to 5 ,, ...	515	59	11·5
5 to 6 ,, ...	499	41	8·2
6 to 7 ,, ...	461	26	5·6
7 to 8 ,, ...	385	20	5·2
8 to 9 ,, ...	319	8	2·5
9 to 10 ,, ...	254	8	3·2
10 to 15 ,, ...	745	20	2·7
15 to 20 ,, ...	258	3	1·2
20 to 25 ,, ...	98	4	4·1
25 to 35 ,, ...	92	—	—
35 to 45 ,, ...	22	2	9·1
Over 45 ,, ...	10	—	—
All ages............	4,840	377	7·8

* The figures in this column are the actual proportions of fatal cases to the attacks at those ages.

As regards the loss of life due to Scarlet Fever at the several ages, it will be noticed that, speaking generally, the mortality decreases almost steadily from infancy to adult life. In the above table, however, there would appear to be an exception to what is believed to be an established law, for at the top of the table it appears that amongst children under one year of age only 14·5 per cent. of the attacks proved fatal. In the year 1888 I investigated the question of mortality at certain ages amongst Scarlet Fever cases on the basis of a total of 6,682 completed cases. At that time I found that the mortality amongst 138 infants under one year suffering from Scarlet Fever was just 25 per cent., and I am sure that this proportion is nearer the truth than is the 14·5 per cent. of the present table. My belief is that a considerable number of the 69 cases under one year of age returned as Scarlet Fever in the certificate were in reality cases of some other disease; and I am strengthened in this belief by the consideration that amongst the children admitted to hospital during the same period with undoubted Scarlet Fever at this early age the mortality was 25 per cent.

Scarlet Fever Prevalence in other Notification Towns.—The subjoined figures, which, as they stand, represent annual rates per 1,000 of the population, show the relative prevalence of Scarlet Fever in twelve large Notification Towns of Lancashire and Yorkshire* which have been selected for comparison with Manchester. The rates of attack are also given for each of the main statistical divisions of the City.

SCARLET FEVER ATTACKS.—RATE PER 1,000 LIVING.

	1888	1889	1890	1891	1892	Mean	1893
Twelve Notification Towns*	4·57	4·51	4·77	2·95	4·55	**4·27**	5·19
City of Manchester ...	4·50	4·98	5·26	2·24	3·25	**4·05**	3·92
Manchester Township ...	4·53	4·66	5·33	1·92	3·63	**4·01**	2·45
North Manchester	4·46	5·31	4·95	2·32	4·64	**4·34**	5·14
South Manchester	4·49	5·12	5·31	2·39	4·28	**4·32**	4·16

From this table it is evident that although Scarlatina has been growing more prevalent here since the end of 1891, it has nevertheless been less prevalent here than in the twelve selected Notification Towns taken together. It is true that the North Division of Manchester has for the last three years suffered excessively as compared with the average, but the other two divisions have shown rates which were in each case below the quinquennial mean. Of the twelve selected Notification Towns, only four showed in 1893 rates of Scarlatina prevalence in excess of the Manchester rate. Of the 4,840 cases of Scarlet Fever which came to the knowledge of the Public Health Office during the three years under review, 377 terminated fatally; the case fatality, or proportion of deaths to attacks at all ages, was therefore equal to 7·8 per cent.

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*These are Blackburn, Bolton, Bradford, Halifax, Huddersfield, Hull, Liverpool, Oldham, Preston, Salford, Sheffield, and Warrington.

Scarlet Fever Mortality.—The following table, which has been prepared from figures published in the returns of the Registrar General, shows the annual rates of *Scarlet Fever mortality* in recent years. The Manchester rates are here compared with those in England and Wales as a whole, and also with those in other large towns and rural districts.

SCARLET FEVER MORTALITY.—RATE PER 1,000 LIVING.

	1888	1889	1890	1891	1892	Mean	1893
England and Wales...	0·23	0·24	0·24	0·17	0·19	**0·21**	0·24
33 Great Towns	0·30	0·33	0·33	0·18	0·25	**0·28**	0·29
London..................	0·30	0·19	0·21	0·14	0·27	**0·22**	0·37
Manchester City...	0·42	0·45	0·60	0·22	0·27	**0·39**	0·27
Manchester Township	...	...	...	0·22	0·35	...	0·23
North Manchester ...	...	...	...	0·22	0·39	...	0·39
South Manchester ...	...	...	...	0·23	0·16	...	0·23
50 Smaller Towns ...	0·22	0·24	0·30	0·22	...	**0·25**	...
67 Smaller Towns ...	...	...	...	...	0·20	...	0·20
Rural Districts	0·18	0·18	0·18	0·15	0·15	**0·17**	0·20

Throughout England and Wales there seems to have been a fairly steady decline in Scarlatina mortality during the decennium ending with the last census year, the rate having fallen from 0·52 per 1,000 in the year 1882 to 0·17 in 1891. The rate rose to 0·19 per 1,000 in 1892 and further rose to 0·23 in 1893. In the year 1892 an abrupt rise in Scarlatina mortality took place in London, the rate being double that obtaining in the year immediately preceding, and also being considerably in excess of the average rate in the quinquennium 1888-92. In the year 1893 a still further rise took place, the rate for that year being higher than in any year since 1883. The average Scarlatina mortality in 1893 in the 33 great English towns was higher than the average for 1888-91 in the 28 great towns; the corresponding mortality in the so-called rural districts was also higher. But in the 67 great towns the rate in 1893 was lower than the mean rate in the 50 towns during the preceding four years.

Diphtheria, Membranous Croup.

In the course of the year 1891 there were reported at the Public Health Office 456 attacks by Diphtheria, 497 in the year 1892, and 622 in the year 1893. Calculated on the estimated population, these cases are equal to a rate of 0·90 per 1,000 in the first-named year, of 0·97 in the second, and of 1·20 in the last-named year.

Seasonal Prevalence of Diphtheria.—The subjoined table indicates the weekly distribution of Diphtheria attacks during the last three years. The *date of onset, or first feeling of illness*, and not the date of report to the Health Office, determines the particular week to which each attack is assigned.*

ATTACKS BY DIPHTHERIA, MEMB. CROUP, 1891.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week ending	Attacks	Week ending	Attacks	Week ending	Attacks	Week ending	Attacks
Jan. 10	8	April 11	12	July 11	4	Oct. 10	11
,, 17	14	,, 18	6	,, 18	19	,, 17	13
,, 24	7	,, 25	14	,, 25	6	,, 24	9
,, 31	11	May 2	9	Aug. 1	6	,, 31	10
Feb. 7	12	,, 9	4	,, 8	10	Nov. 7	5
,, 14	15	,, 16	5	,, 15	9	,, 14	16
,, 21	14	,, 23	3	,, 22	7	,, 21	19
,, 28	8	,, 30	4	,, 29	7	,, 28	7
Mch. 7	7	June 6	7	Sept. 5	9	Dec. 5	6
,, 14	8	,, 13	8	,, 12	6	,, 12	10
,, 21	11	,, 20	9	,, 19	9	,, 19	10
,, 28	4	,, 27	6	,, 26	9	,, 26	7
April 4	11	July 4	2	Oct. 3	7	Jan. 2	6
Total...	130	Total...	89	Total...	108	Total...	129

ATTACKS BY DIPHTHERIA, MEMB. CROUP, 1892.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week ending	Attacks	Week ending	Attacks	Week ending	Attacks	Week ending	Attacks
Jan. 9	4	April 9	10	July 9	9	Oct. 8	8
,, 16	5	,, 16	12	,, 16	9	,, 15	20
,, 23	8	,, 23	15	,, 23	8	,, 22	21
,, 30	12	,, 30	15	,, 30	3	,, 29	5
Feb. 6	11	May 7	10	Aug. 6	4	Nov. 5	9
,, 13	11	,, 14	8	,, 13	8	,, 12	10
,, 20	5	,, 21	14	,, 20	9	,, 19	8
,, 27	11	,, 28	8	,, 27	12	,, 26	8
Mch. 5	8	June 4	7	Sept. 3	8	Dec. 3	9
,, 12	10	,, 11	8	,, 10	11	,, 10	8
,, 19	11	,, 18	8	,, 17	6	,, 17	11
,, 26	15	,, 25	7	,, 24	6	,, 24	9
April 2	13	July 2	9	Oct. 1	13	,, 31	10
Total...	124	Total...	131	Total...	106	Total...	136

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* For this reason the totals in these tables will not agree with those published in the Weekly and Quarterly Health Returns, which latter show the *number of cases reported* in the several periods, without reference to the date of attack.

Attacks by Diphtheria, Memb. Croup, 1893.

First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Week ending	Attacks	Week ending	Attacks	Week ending	Attacks	Week ending	Attacks
Jan. 7	8	April 8	7	July 8	19	Oct. 7	24
,, 14	8	,, 15	15	,, 15	26	,, 14	17
,, 21	6	,, 22	14	,, 22	14	,, 21	8
,, 28	12	,, 29	17	,, 29	10	,, 28	19
Feb. 4	11	May 6	11	Aug. 5	14	Nov. 4	14
,, 11	12	,, 13	12	,, 12	7	,, 11	12
,, 18	11	,, 20	20	,, 19	9	,, 18	9
,, 25	12	,, 27	9	,, 26	8	,, 25	10
Mch. 4	14	June 3	12	Sept. 2	12	Dec. 2	18
,, 11	11	,, 10	14	,, 9	8	,, 9	7
,, 18	13	,, 17	13	,, 16	5	,, 16	7
,, 25	8	,, 24	20	,, 23	10	,, 23	3
April 1	8	July 1	13	,, 30	12	,, 30	9
Total...	134	Total...	177	Total...	154	Total...	157

Local Distribution of Diphtheria Sickness.—The following table shows the incidence of Diphtheria attacks in the several townships of Manchester :—

Diphtheria, Membranous Croup.—Rates of Attack, 1891–93.

Manchester Townships	Attacks	Attack Rate per 1,000 living	† Case Fatality, per cent.	Hospital Removals, per cent.
Ancoats	113	0·80	33·6	38·1
Central..................	72	0·63	34·7	41·6
St. George's	205	1 08	32·7	21·0
Cheetham	74	0·84	28·4	24·3
Crumpsall	30	1·26	36·6	46·6
Blackley	41	1·86	19·5	2·4
Harpurhey	70	2·57	25·7	18·5
Moston	36	2·21	16·7	...
Newton Heath.........	186	1·79	23·7	16·7
Bradford	47	0·76	42·5	12·8
Beswick	23	0·76	39·2	26·1
Clayton	8	0·76	50·0	37·5
Ardwick	125	1·17	28·0	15·2
Openshaw	61	0·80	37·7	11·5
Gorton (West)	93	1·22	28·0	11·8
Rusholme and Kirk.	64	1·20	20·3	20·3
Chorlton-on-Medlock	174	0·97	20·1	17·8
Hulme	153	0·70	29·4	27·5
City of Manchester	**1575**	**1·02**	**28·5**	**21·0**

† Corrected : the fatal cases are those occurring amongst the cases actually notified.

Taking the three years together, it appears from this table that Diphtheria showed the heaviest proportional incidence in the districts of Harpurhey and Moston, in which districts, respectively, the rates of attack averaged 2·6 and 2·2 per 1,000 living. The attacks, however, were relatively most severe in Clayton, where the fatality equalled 50 per cent. of the cases treated. The disease was also present in an exceedingly fatal form in Bradford.

Diphtheria Map.—The accompanying map has been prepared in order to show graphically the distribution of Diphtheritic sickness in the several townships of Manchester. The townships are so tinted that the depth of colour is roughly proportional to the incidence of Diphtheria attacks upon the local populations. The distribution of Diphtheria in Manchester as shown by this map is very interesting, and will doubtless receive the attention it deserves.

Age Distribution of Diphtheria—Case fatality.—The appended table indicates the ages at which Diphtheria was most prevalent in 1891-93, and also the ages at which it was most fatal. It will be seen that, as in the case of the last-mentioned disease, Diphtheria is most prevalent in infancy, at which period also it is most fatal; the case fatality amongst 560 children aged under five years, attacked during the last three years, being 58 per cent.

Diphtheria, Membranous Croup, 1891, 1892, and 1893.

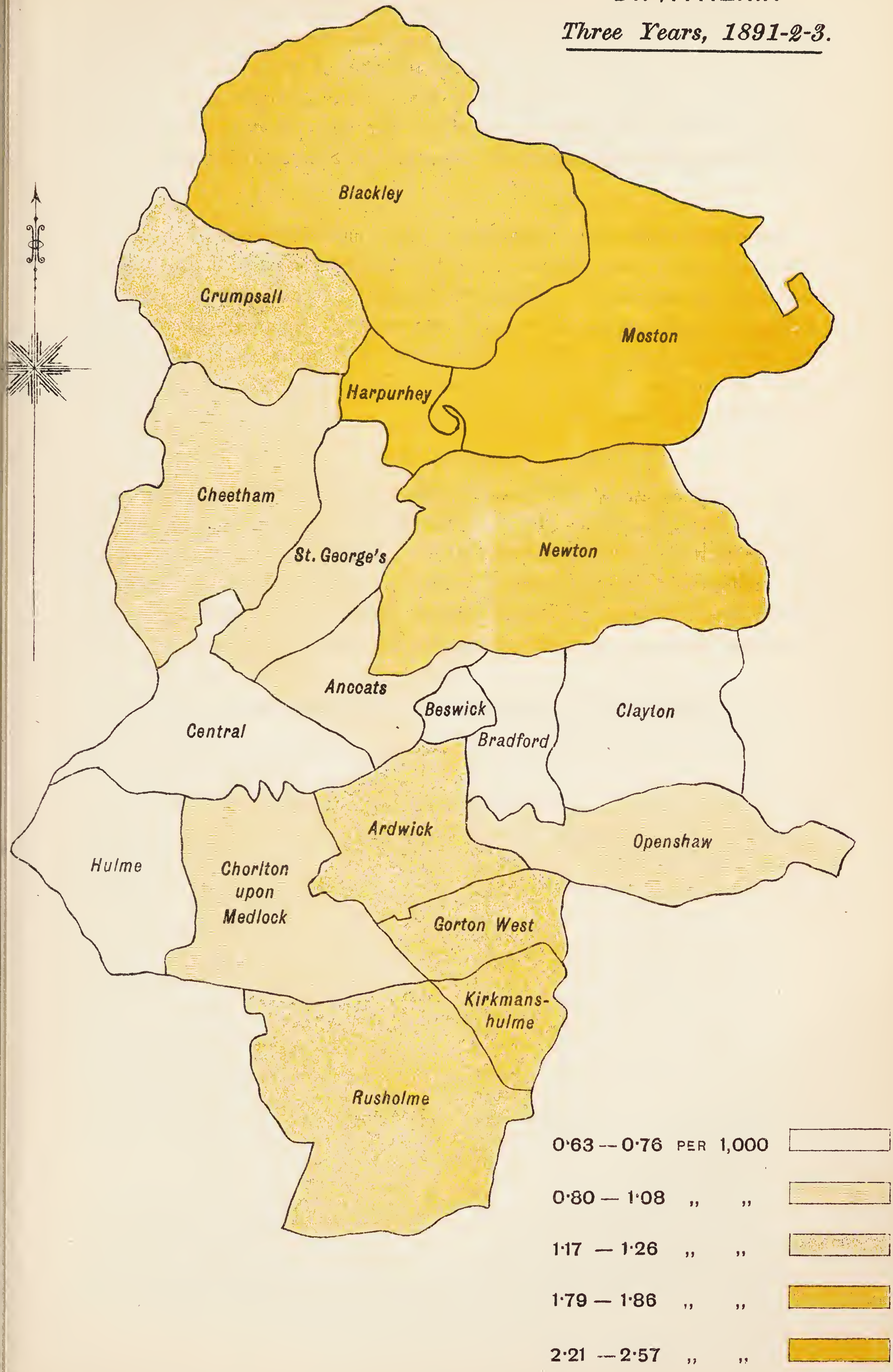
AGES	ATTACKS	DEATHS	CASE FATALITY, PER CENT.
Under one year...	38	30	78·9
1 to 2 years ...	124	88	71·0
2 to 3 ,, ...	122	79	64·3
3 to 4 ,, ...	144	74	51·4
4 to 5 ,, ...	132	54	40·9
5 to 6 ,, ...	100	41	41·0
6 to 7 ,, ...	64	21	32·8
7 to 8 ,, ...	59	15	25·4
8 to 9 ,, ...	46	6	13·0
9 to 10 ,, ...	46	8	17·4
10 to 15 ,, ...	168	9	5·4
15 to 20 ,, ...	150	10	6·7
20 to 25 ,, ...	112	5	4·5
25 to 30 ,, ...	155	5	3·2
35 to 45 ,, ...	81	1	1·2
Over 45 ,, ...	34	2	5·9
All ages............	1,575	448	28·4

GREATER MANCHESTER.

Average Sickness Rates from

DIPHTHERIA

Three Years, 1891-2-3.



Hospital Treatment of Diphtheria, compared with Home Treatment.—Of the 1,575 Diphtheria cases occurring in the last three years, 331 were treated in hospital and 1,244 at home. In hospital the case fatality at all ages was equal to 22 per cent. of the admissions, whilst the cases treated at home were subject to a fatality of 30 per cent. At the earlier ages of life the advantage of hospital care and treatment over home nursing were even more strongly pronounced.

Diphtheria Prevalence in other Towns.—The following table shows the varying rates of Diphtheritic sickness in the several larger divisions of the City of Manchester; and also, for comparison with these, the corresponding dates for the twelve local Notification Towns.

DIPHTHERIA AND MEMB. CROUP.—RATES OF ATTACK PER 1,000 OF POPULATION.

	1888	1889	1890	1891	1892	Mean	1893
Twelve Notification Towns	0·37	0·70	0·70	0·46	0·53	**0·55**	0·54
City of Manchester ...	0·87	1·21	1·20	0·90	0·97	**1·03**	1·20
Manchester Township......	0·64	1·15	1·25	0·79	0·95	**0·96**	0·90
North Manchester	1·24	1·65	1·03	1·35	1·23	**1·30**	1·45
South Manchester	0·94	1·09	1·21	0·72	0·84	**0·96**	1·25

It thus appears that in every one of the main divisions of Manchester, the rate of attack by Diphtheria is considerably higher than in the twelve Notification Towns taken together, and this is true whether we deal with the rates of the year 1893 or with the average annual rates in the preceding quinquennium. Of the twelve Notification Towns in the list, only two—namely, Halifax and Salford—showed in 1893 a higher rate of Diphtheritic sickness than Manchester.

Diphtheria Mortality.—The number of deaths registered as due to Diphtheria and Membranous Croup in the years 1891-93 was 448. These deaths are equal to an average annual rate of 0·28 per 1,000 living, which is lower than the average of the Diphtheria death-rates in the previous five years. Of the 448 deaths here recorded, 341 were referred by medical certificate to Diphtheria and 107 to Membranous Croup. For preventive purposes, these deaths may safely be regarded as Diphtheritic in character.

In the following table the rates of Diphtheria mortality in Manchester are compared with the corresponding rates in England and Wales generally, in other large towns, and in the rural districts; and the rates in 1893 for these areas are there compared with those for recent previous years.

DIPHTHERIA MORTALITY.—RATE PER 1,000 LIVING.

	1888	1889	1890	1891	1892	Mean	1893
England and Wales	0·17	0·19	0·18	0·17	0·22	**0·19**	0·32
33 Great Towns	0·22	0·26	0·25	0·21	0·27	**0·24**	0·43
London	0·32	0·39	0·33	0·34	0·46	**0·37**	0·76
Manchester City	0·36	0·51	0·36	0·25	0·25	**0·35**	0·35
Manchester Township	...	...	...	0·26	0·32	...	0·30
North Manchester	...	...	...	0·40	0·30	...	0·38
South Manchester	...	...	...	0·17	0·18	...	0·37
50 Smaller Towns	0·12	0·13	0·12	0·13	...	**0·13**	..
67 Smaller Towns	...	...	...	...	0·15	...	0·19
Rural Districts	0·16	0·16	0·15	0·15	0·16	**0·16**	0·24

It thus appears that in the year 1893 the mortality from Diphtheria in England and Wales was considerably higher than the quinquennial average. In London the excess was equal to 0·39 per 1,000, the rate of Diphtheria mortality there being more than double that of England and Wales generally. In Manchester the rate was below that of the 33 great English towns, but above that of the 67 smaller towns of England.

Typhus.

Although it is happily true that, compared with 20 years ago, Typhus is at the present time comparatively rare in Manchester, nevertheless it is a fact of the highest significance that whenever a Typhus-stricken tramp finds his way into the Manchester slums from one or other of the "Fever homes" of these islands, the disease shows as great a tendency as ever to spread. A single Typhus case would certainly at any time give rise to a serious epidemic, should it escape detection and prompt isolation in hospital.

Reference to the table on page 106 shows that scarcely a year has passed since 1871 in which a few deaths from Typhus have not defaced the Manchester death roll; and inasmuch as each death implies the existence of at least five or six cases, it will readily be understood that, but for our hospitals and other defensive organizations, epidemics of this terrible disease would be of frequent occurrence amongst us even at the present day.

The following statement shows the relative incidence of Typhus attacks in the various districts of Manchester. The average rates of attack are also shown in the twelve selected Notification Towns in this part of England. If decimal points be neglected, the figures may be taken as rate per 100,000 of the population.

TYPHUS FEVER SICKNESS.—RATES PER 1,000 LIVING.

	1888	1889	1890	1891	1892	Mean	1893
Twelve Notification Towns	0·04	0·11	0·07	0·09	0·04	**0·07**	0·08
City of Manchester ...	0·09	0·01	0·03	0·03	0·01	**0·03**	...
Manchester Township......	0·23	0·01	0·05	0·07	...	**0·07**	0·01
North Manchester	0·02	0·03	...	0·03	0·04	**0·02**	...
South Manchester	0·01	...	0·02	...	...	**0·01**	...

Enteric [Typhoid] Fever.

In the course of the year 1891 there occurred in Manchester 761 cases of Enteric or Typhoid Fever, 610 in the immediately following year, and 618 in the year 1893. Calculated on the estimated population at the middle of each year, these attacks were equal to a rate of 1·50 per 1,000 in the year 1891 and of 1·19 per 1,000 both in the year 1892 and in 1893.

Seasonal Prevalence of Enteric Fever.—In the appended tables the approximate dates are given at which the Enteric Fever cases occurred during the years 1891-93; the *date of onset*, or first feeling of illness, and not the date of notification, being taken to determine the week to which each attack should be referred.*

ENTERIC FEVER ATTACKS, 1891.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week ending	Attacks	Week ending	Attacks	Week ending	Attacks	Week ending	Attacks
Jan. 10	11	April 11	15	July 11	4	Oct. 10	32
" 17	20	" 18	13	" 18	7	" 17	23
" 24	12	" 25	15	" 25	8	" 24	28
" 31	18	May 2	16	Aug. 1	5	" 31	17
Feb. 7	9	" 9	12	" 8	8	Nov. 7	22
" 14	18	" 16	7	" 15	12	" 14	25
" 21	13	" 23	8	" 22	14	" 21	26
" 28	8	" 30	6	" 29	25	" 28	35
Mch. 7	15	June 6	8	Sept. 5	22	Dec. 5	15
" 14	10	" 13	8	" 12	20	" 12	20
" 21	9	" 20	6	" 19	18	" 19	18
" 28	14	" 27	1	" 26	19	" 26	15
April 4	16	July 4	4	Oct. 3	18	Jan. 2	13
Total...	173	Total...	119	Total...	180	Total...	289

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* For this reason the totals in these tables will not agree with those published in the Weekly and Quarterly Health Returns, which latter show the *number of cases reported* in the several periods, without reference to the date of attack.

ENTERIC FEVER ATTACKS, 1892.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week ending	Attacks	Week ending	Attacks	Week ending	Attacks	Week ending	Attacks
Jan. 9	13	April 9	9	July 9	4	Oct. 8	17
,, 16	17	,, 16	3	,, 16	6	,, 15	7
,, 23	15	,, 23	6	,, 23	10	,, 22	11
,, 30	13	,, 30	6	,, 30	12	,, 29	15
Feb. 6	14	May 7	17	Aug. 6	9	Nov. 5	27
,, 13	12	,, 14	9	,, 13	8	,, 12	19
,, 20	8	,, 21	14	,, 20	9	,, 19	14
,, 27	13	,, 28	6	,, 27	11	,, 26	16
Mch. 5	14	June 4	11	Sept. 3	20	Dec. 3	23
,, 12	13	,, 11	2	,, 10	13	,, 10	9
,, 19	8	,, 18	6	,, 17	19	,, 17	11
,, 26	10	,, 25	5	,, 24	13	,, 24	10
April 2	14	July 2	12	Oct. 1	22	,, 31	5
Total...	164	Total ..	106	Total...	156	Total...	184

ENTERIC FEVER ATTACKS, 1893.

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER		FOURTH QUARTER	
Week ending	Attacks	Week ending	Attacks	Week ending	Attacks	Week ending	Attacks
Jan. 7	12	April 8	10	July 8	13	Oct. 7	19
,, 14	10	,, 15	5	,, 15	10	,, 14	16
,, 21	10	,, 22	8	,, 22	10	,, 21	30
,, 28	13	,, 29	1	,, 29	10	,, 28	27
Feb. 4	8	May 6	5	Aug. 5	15	Nov. 4	18
,, 11	5	,, 13	2	,, 12	14	,, 11	20
,, 18	6	,, 20	4	,, 19	14	,, 18	20
,, 25	9	,, 27	5	,, 26	20	,, 25	14
Mch. 4	6	June 3	3	Sept. 2	19	Dec. 2	14
,, 11	9	,, 10	9	,, 9	28	,, 9	9
,, 18	6	,, 17	10	,, 16	25	,, 16	9
,, 25	9	,, 24	11	,, 23	27	,, 23	9
April 1	5	July 1	7	,, 30	15	,, 30	5
Total...	108	Total...	80	Total...	220	Total...	210

It thus appears that it was in the autumn of each of these years that Enteric Fever showed the greatest prevalence in Manchester. This is in accordance with previous experience, both here and in other parts of the United Kingdom.

Local Distribution of Enteric Fever.—The following table shows the incidence of Enteric Fever sickness in the several townships of the City:—

ENTERIC FEVER ATTACKS, 1891-93.

TOWNSHIPS OF MANCHESTER	ATTACKS	ATTACK RATE PER 1,000 LIVING	† CASE FATALITY, PER CENT.	REMOVALS TO HOSPITAL, PER CENT.
Ancoats	114	0·81	29·0	54·4
Central	192	1·68	22·9	68·2
St. George's	211	1·12	18·5	52·1
Cheetham	70	0·80	15·7	41·4
Crumpsall	10	0·42	30·0	30·0
Blackley	12	0·54	33·3	25·0
Harpurhey	33	1·21	21·2	15·1
Moston	15	0·92	13·3	20·0
Newton Heath.........	154	1·48	27·3	45·5
Bradford	97	1·56	15·5	45·4
Beswick	32	1·06	34·4	46·8
Clayton	8	0·76	25·0	12·5
Ardwick	154	1·44	18·8	50·7
Openshaw...............	130	1·70	17·7	41·6
Gorton (West)	233	3·05	15·5	44·6
Rusholme and Kirk.	53	0·99	15·1	15·1
Chorlton-on-Medlock.	181	1·00	22·7	49·8
Hulme	290	1·33	27·2	53·1
City of Manchester	**1,989**	**1·29**	**21·6**	**48·5**

† Corrected: the fatal cases are those occurring amongst the cases actually notified.

Taking the City as a whole, the year 1891 was one of much greater Enteric Fever prevalence than were either of the subsequent years. The actual numbers being small, it may be convenient to ignore decimal places, so that the figures in this table may represent rates per 100,000 of the population· In the years 1891–93 the newly-added district of West Gorton appears to have been the area most heavily visited by Enteric Fever, the attacks there being in the mean proportion of 305 per 100,000 of the population. Next comes Openshaw, with a rate of 170; next again the Central District of the Manchester Union, where the proportion was 168; and next Bradford, where it was 156. At the other end of the scale stand Crumpsall with the lowest rate, namely, 42; and Blackley, with a rate of 54. On reference to the table on page 55, we find that out of equal numbers living in the five years 1888-92, there fell ill of Enteric Fever 130 persons in the City of Manchester and 128 in the Manchester Township. In North Manchester the proportion was 129, and in South Manchester 132. In the year 1893 the distribution of attacks in Statistical Divisions was different, for in that year the attacks were relatively least numerous in the Township of Manchester, whilst they were still most numerous in South Manchester, amounting to 93 in each hundred thousand in the former division and 142 in the latter.

Enteric Fever Map.—The map on the opposite page has been prepared with the aid of the table last given. It shows, by gradations of colour, the relative incidence of Enteric Fever attacks, so far as these were reported in the several townships of Manchester, during the last three years.

Age and Sex Distribution of Enteric Fever.—The following table gives the age distribution of the Enteric Fever attacks in 1891-93, and as nearly as may be the true case fatality amongst the patients. On comparing the age incidence of Enteric Fever with that of Diphtheria or with that of Scarlet Fever, a great difference is at once detected. Enteric Fever is a disease affecting principally children of school age and young adults, although it occurs less frequently amongst persons of other ages. Of the 1,989 persons attacked with Enteric Fever during the three years under review, 1,120 were males and 869 females.

Enteric Fever, 1891, 1892, and 1893.

AGES	ATTACKS	DEATHS	CASE FATALITY, PER CENT.
Under one year...	3	3	100·0
1 to 2 years ...	10	2	20·0
2 to 3 „ ...	23	5	21·7
3 to 4 „ ...	36	9	25·0
4 to 5 „ ...	68	7	10·3
5 to 6 „ ...	66	8	12·1
6 to 7 „ ...	67	8	11·9
7 to 8 „ ...	65	9	13·8
8 to 9 „ ...	59	5	8·5
9 to 10 „ ...	57	7	12·3
10 to 15 „ ...	341	46	13·5
15 to 20 „ ...	347	65	18·7
20 to 25 „ ...	270	53	19·6
25 to 30 „ ...	322	96	29·8
35 to 45 „ ...	154	65	42·2
Over 45 „ ...	101	42	41·6
All ages............	1,989	*430	21·6

Enteric Fever Prevalence in other Towns.—The accompanying figures, which represent annual rates of attack, show the relative prevalence of Enteric Fever during the last six years in the City and in its larger Statistical Divisions. The corresponding rates are also shown for the twelve selected Notification Towns of Lancashire and Yorkshire in the aggregate.

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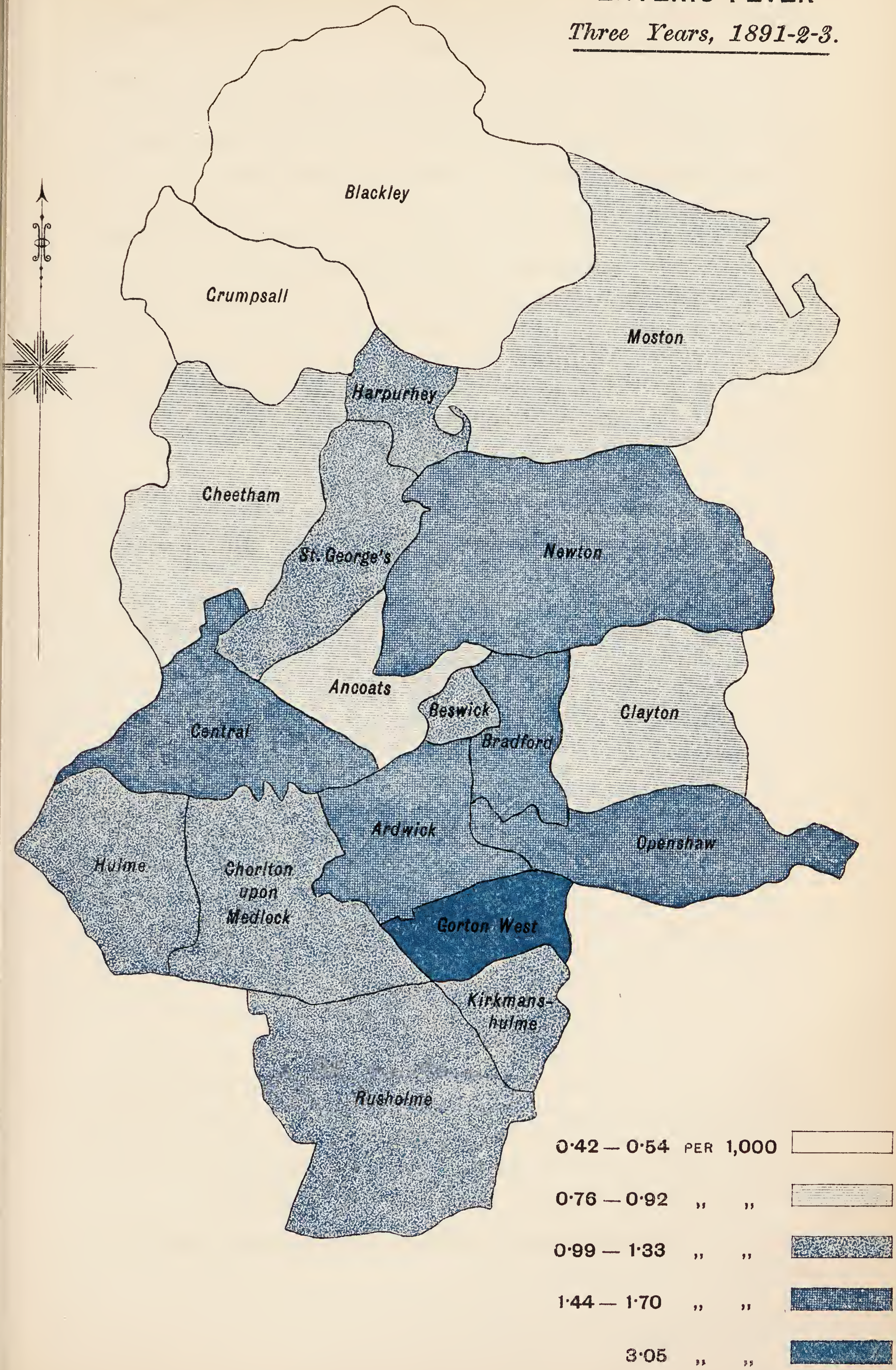
* *i.e.* The deaths in these 1,989 reported attacks, not the deaths actually registered in the three years.

GREATER MANCHESTER.

Average Sickness Rates from

ENTERIC FEVER

Three Years, 1891-2-3.



ENTERIC FEVER SICKNESS.—RATE PER 1,000 LIVING.

	1888	1889	1890	1891	1892	Mean	1893
Twelve Notification Towns...	1·32	1·27	1·01	1·09	0·90	**1·12**	1·85
City of Manchester	1·59	1·09	1·12	1·50	1·19	**1·30**	1·19
Manchester Township	1·65	1·12	1·07	1·37	1·18	**1·28**	0·93
North Manchester	1·83	1·35	0·99	1·36	0·94	**1·29**	1·08
South Manchester	1·45	0·98	1·21	1·65	1·33	**1·32**	1·42

Neglecting decimals, the above figures express annual rates per 100,000 living. It is clear from this table that, as compared with the twelve selected Notification Towns taken together, Manchester suffers excessively from Enteric Fever. During the five years 1888-92, the rate of sickness from Enteric Fever to which Manchester people had to submit was in excess of the rate in the twelve selected Notification Towns in the aggregate by 16 per cent. In the district of South Manchester the excess was equal to 18 per cent. Taking the twelve towns individually, it is found that in the five years referred to two only had rates in excess of Manchester, the other towns having rates in many cases markedly lower than the rate of our own City.

Enteric Fever Mortality.—The following table shows for the country generally, as well as for London, Dublin, Manchester, and its main Statistical Divisions, the rate of mortality due to Enteric Fever in 1893, and also in recent previous years. During the year 1891 there were registered in Manchester 189 deaths from Enteric Fever, and in the two years immediately succeeding 124 and 127 respectively. The annual rate of mortality from this disease was therefore equal to 0·37 per 1,000 living in the earlier year, to 0·24 per 1,000 in the second, and to 0·25 in the last-mentioned year.

MORTALITY FROM ENTERIC FEVER.—RATE PER 1,000 LIVING.

	1888	1889	1890	1891	1892	Mean	1893
England and Wales	0·17	0·18	0·18	0·17	0·14	**0·17**	0·23
London	0·17	0·13	0·15	0·13	0·10	**0·14**	0·16
Dublin	0·47	0·65	0·48	0·53	0·38	**0·50**	0·80
City of Manchester	0·33	0·31	0·27	0·37	0·24	**0·30**	0·25
Manchester Township	...	...	...	0·40	0·24	...	0·18
North Manchester...............	...	...	...	0·29	0·25	...	0·27
South Manchester...............	...	...	...	0·40	0·24	...	0·27

It thus appears that, on the average of the five years 1888–92, Enteric Fever was more than twice as fatal in Manchester as it was in London. In Dublin, however, the rate was considerably heavier than with us. See Report[*] on Typhoid Fever in Dublin, published in a recent number of the "Dublin Journal of Medical Science."

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[*] Report on Typhoid Fever in Dublin for ten years, by Dr. J. W. Moore and Dr. George Duffey—"Dublin Journal of Medical Science," September, 1893.

Enteric Fever—Case Fatality.—Of the 1,989 cases of Enteric Fever treated in Manchester during the three years last ended, 430 or 21·6 per cent. terminated fatally. The case fatality was highest in the townships of Blackley and Beswick, where it averaged 33·3 and 34·4 per cent. It was lowest (13·3 per cent.) in Moston. Before, however, any definite conclusions can be drawn from a comparison of the case fatality of any given series of Enteric Fever attacks, it will be necessary to ascertain that the age grouping of each series is similar; for it is well known that the fatality of Enteric Fever, like that of certain other acute fevers, varies considerably according to the ages of the patients.

Hospital and Home Treatment of Enteric Fever compared.—Of the 1,989 cases of Enteric Fever occurring in Manchester during the last three years, 964 were treated in hospital and 1,025 at home. In hospital the case fatality, or proportion of fatal cases to admissions, was equal to 19·6 per cent.; whilst the cases treated at home were subject to a fatality equal to 23·4 per cent. of the attacks. Apart from other considerations, then, it appears that in the case of Enteric Fever the chances of recovery are improved by the removal of patients to hospital.

Continued Fever.

The term Continued Fever as used by the Registrar General includes, in addition to the well-known forms Typhus and Typhoid, the various ill-defined forms of pyrexia such as "febricula," simple continued fever, &c., for which no better name has as yet been found.

In the returns for the principal English Towns, with the exception of the Metropolis, there still continue to be included under this heading two fevers, Typhus and Enteric (Typhoid), which œtiologically considered, have but few characteristics in common.

The Registrar General publishes, in his annual summary for 1893, the rates of mortality from "Fever" for the 33 Great Towns of England. From that document the figures in the following table are taken:—

"FEVER." ANNUAL RATE OF MORTALITY PER 1,000 LIVING.

	1883–92	1893
England and Wales	0·21	0·24
33 Great English Towns	0·23	0·24
London	0·18	0·17
City of Manchester	**0·28**	**0·25**

It thus appears that "Fever" is normally more fatal in Manchester than either in the 33 Great Towns in the aggregate or in London. In the list of Great Towns there are, however, 12 in which the "Fever" mortality in 1883–92 exceeded that of our own City.

Measles.

As the notification of Measles is not required under our Local Act, the only measure we possess of its prevalence is that afforded by the mortality to which it gives rise. In the course of the year 1891 there were referred to Measles 220 deaths, and 369 and 293 in the two following years. These deaths are equal to annual rates of 0·43, 0·72, and 0·57 respectively per 1,000 of the population, as compared with 1·22 and 0·83 in the years 1889 and 1890.

The fatality of this disease, though scarcely its quantitative local prevalence, is measured by the following figures, which relate to Manchester and to other parts of England :—

MEASLES MORTALITY.—ANNUAL RATE PER 1,000 LIVING.

	1888	1889	1890	1891	1892	Mean	1893
England and Wales	0·35	0·52	0·44	0·44	0·46	**0·44**	0·37
33 Great Towns	0·47	0·71	0·67	0·52	0·69	**0·61**	0·44
London	0·59	0·56	0·77	0·43	0·80	**0·63**	0·38
City of Manchester	0·27	1·22	0·83	0·43	0·72	**0·69**	0·57
Manchester Township	...	...	...	0·68	1·32	...	0·86
North Manchester	...	...	...	0·44	0·44	...	0·63
South Manchester	...	...	...	0·27	0·49	...	0·35
50 Smaller Towns	0·43	0·62	0·35	0·62	...	**0·51**	...
67 Smaller Towns	...	...	...	...	0·40	...	0·51
Rural Districts	0·24	0·37	0·31	0·33	0·30	**0·31**	0·27

It thus appears that in the five years 1888–92 Measles was more fatal in Manchester than either in England as a whole, in the Great English Towns, or in the Rural Districts; it was also higher in this City than in London. In the year 1893, however, our local Measles rate was lower than the mean rate in the previous quinquennium.

It will be remembered that Measles was epidemic in Manchester during the years 1889 and 1890. The epidemic did not subside until the end of March, 1891, but from that period onwards no special recurrence of the disease was noticed until the second quarter of 1892, when the deaths rapidly rose to 131 in the course of the three months. In the fourth quarter of that year a similar number of deaths took place, but no epidemic like that of 1890 has since occurred.

As might have been anticipated, it is in the *Manchester Township* that the mortality from Measles is normally the highest, the rate there in the last three years having averaged 95 per 100,000; whilst it did not exceed 50 in North and 37 in South Manchester.

Looking at the fact that Measles is under certain circumstances a very fatal disease, and that it carries off from time to time a very large proportion of our infantile population, it has of late been frequently suggested that Measles should be included in the list of diseases the notification of which is required by law.

For obvious reasons, statistics as to the age at which Measles is most *prevalent* amongst children are less reliable than those respecting Measles *mortality* at the various ages. But if we distribute in age-groups the 882 deaths from Measles which have occurred in Manchester during the last three years, we find that 22 per cent. occurred amongst infants under one year, 43 per cent. from 1 to 2 years, 17 per cent. from 2 to 3, 9 per cent. from 3 to 4, 5 per cent. from 4 to 5 years, and only 5 per cent. at all ages over 5 years (see tables, pages 102 to 104). The disease is, therefore, one of early childhood, and the age from twelve months to two years is by far the most fatal period of life.

Whooping Cough.

In the year 1891, 518 deaths from Whooping Cough were registered in Manchester, 368 deaths in the following year, and 240 in 1893. Whooping Cough is another intensely infectious disease the notification of which is not compulsory, although it causes a terrible amount of sickness and suffering, and no slight mortality amongst the rising generation. This will be seen on reference to the following table, which is calculated from the returns of the Registrar General, and may therefore be accepted as reliable.

Whooping Cough Mortality.—Annual Rate per 1,000 living.

	1888	1889	1890	1891	1892	Mean	1893
England and Wales	0·44	0·43	0·48	0·47	0·46	**0·45**	0·34
33 Great Towns	0·60	0·50	0·62	0·64	0·57	**0·59**	0·48
London	0·73	0·43	0·77	0·68	0·59	**0·64**	0·54
City of Manchester	0·79	0·45	0·37	1·02	0·72	**0·67**	0·46
Manchester Township	...	...	...	1·24	0·86	...	0·64
North Manchester	...	...	...	0·72	0·60	...	0·28
South Manchester	...	...	...	1·04	0·69	...	0·45
50 Smaller Towns	0·41	0·43	0·44	...	...	**0·43**	...
67 Smaller Towns	...	...	...	0·39	0·49	...	0·31
Rural Districts	0·30	0·34	0·36	0·35	0·32	**0·33**	0·23

It thus appears that in 1891 and in 1892 Whooping Cough was more fatal in Manchester than in any of the other localities mentioned in the table. The Manchester rates in both years being considerably in excess of the quinquennial mean for the City. In the first half both of 1891 and of 1892, Whooping Cough was exceptionally fatal in Manchester; and in the fourth quarter of 1891 a considerable number of deaths were referred to that disease. The third quarter, however, of both years were periods of less than average Whooping Cough mortality, and so likewise was the fourth quarter of 1892. In the year 1893 the rate of Whooping Cough mortality was below the mean both in Manchester and in the 33 Great English Towns.

As in the case of Measles, it was in the Township of Manchester that Whooping Cough found its most numerous victims. The district of North Manchester appears to have enjoyed the greatest freedom from fatal Whooping Cough during the last three years.

AGGREGATE MORTALITY FROM COMMON INFECTIOUS DISEASES.

The following table furnishes the means of comparing the Manchester rates of mortality from the six common infectious diseases in recent years with the corresponding rates in other parts of England and Wales. With the exception of those for Manchester, the rates have in all cases been calculated from the returns of the Registrar General.

SIX COMMON INFECTIOUS DISEASES.—ANNUAL RATE OF MORTALITY PER 1,000 LIVING.

	1883-92	1893	Difference in 1893 per cent.
England and Wales	1·57	1·56	− 0·6 °/ₒ
33 Great English Towns	2·05	1·71	− 16·6 °/ₒ
London	1·92	2·11	+ 9·9 °/ₒ
Manchester	2·46	1·99	− 19·5 °/ₒ

From this, it appears that both in the Great English Towns taken together, and in Manchester, infectious disease generally was less fatal in 1893 than in the preceding decade, but that in London the reverse was the case.

Influenza.

The last quinquennium has witnessed the return in this country of an infectious and most distressing complaint, commonly known under the several names of Influenza, Epidemic Catarrh, Grippe, &c. This disease had not been previously observed here in really epidemic proportions for more than thirty years. The most important epidemic of Influenza since the commencement of Civil Registration occurred in the years 1847–48. The years 1851 and 1855, however, are shown by the Registrar General's returns to have been periods of excessive mortality from that disease.

In the Autumn of 1889, Influenza was reported to be prevalent in many parts of the continent of Europe, and in the early part of the fourth quarter of that year many unquestionable cases of that disease are stated to have occurred in the United Kingdom itself. As regards Manchester, it is worthy of note that from the first appearance of Influenza in the Autumn of 1889 up to the present time not fewer than five fairly marked epidemics, or at any rate recrudescences of the epidemic, of this disease have occurred. The first was in the Winter and Spring of 1889–90; the second began in the month of May, and continued till the middle of September, 1891; the third lasted throughout the first half of 1892; the fourth, which was a less severe one, persisted throughout March and April, 1893; and the fifth, which began in the middle of November, 1893, had not terminated by the close of the year (see accompanying table).

TABLE 10.—DEATHS FROM INFLUENZA IN MANCHESTER, 1890–93, COMPLICATED AND UNCOMPLICATED, IN EACH WEEK OF THE SEVERAL YEARS.

1890		1891		1892		1893	
Weeks ending	Deaths from Influenza	Weeks ending	Deaths from Influenza	Weeks ending	Deaths from Influenza	Weeks ending	Deaths from Influenza
Jan. 4	...	Jan. 10	...	Jan. 9	1	Jan. 7	...
,, 11	...	,, 17	...	,, 16	2	,, 14	...
,, 18	1	,, 24	1	,, 23	8	,, 21	...
,, 25	...	,, 31	...	,, 30	20	,, 28	1
Feb. 1	4	Feb. 7	...	Feb. 6	6	Feb. 4	...
,, 8	5	,, 14	...	,, 13	6	,, 11	2
,, 15	5	,, 21	...	,, 20	12	,, 18	...
,, 22	2	,, 28	...	,, 27	5	,, 25	1
Mch. 1	6	Mch. 7	...	Mch. 5	10	Mch. 4	...
,, 8	5	,, 14	...	,, 12	11	,, 11	1
,, 15	6	,, 21	...	,, 19	11	,, 18	2
,, 22	4	,, 28	1	,, 26	7	,, 25	2
,, 29	4	April 4	...	April 2	10	April 1	3
April 5	1	,, 11	...	,, 9	7	,, 8	...
,, 12	2	,, 18	...	,, 16	8	,, 15	4
,, 19	1	,, 25	...	,, 23	7	,, 22	4
,, 26	2	May 2	6	,, 30	8	,, 29	1
May 3	1	,, 9	37	May 7	2	May 6	2
,, 10	1	,, 16	66	,, 14	4	,, 13	1
,, 17	1	,, 23	69	,, 21	...	,, 20	...
,, 24	...	,, 30	50	,, 28	1	,, 27	...
,, 31	...	June 6	61	June 4	4	June 3	...
June 7	...	,, 13	33	,, 11	1	,, 10	...
,, 14	...	,, 20	14	,, 18	1	,, 17	1
,, 21	...	,, 27	15	,, 25	1	,, 24	1
,, 28	...	July 4	11	July 2	2	July 1	...
July 5	...	,, 11	5	,, 9	1	,, 8	...
,, 12	...	,, 18	3	,, 16	...	,, 15	...
,, 19	...	,, 25	4	,, 23	...	,, 22	...
,, 26	...	Aug. 1	...	,, 30	1	,, 29	...
Aug. 2	...	,, 8	1	Aug. 6	1	Aug. 5	...
,, 9	...	,, 15	1	,, 13	...	,, 12	...
,, 16	..	,, 22	...	,, 20	...	,, 19	...
,, 23	...	,, 29	4	,, 27	...	,, 26	...
,, 30	...	Sept. 5	...	Sept. 3	...	Sept. 2	...
Sept. 6	...	,, 12	1	,, 10	...	,, 9	...
,, 13	...	,, 19	...	,, 17	1	,, 16	...
,, 20	...	,, 26	...	,, 24	1	,, 23	1
,, 27	...	Oct. 3	1	Oct. 1	1	,, 30	1
Oct. 4	...	,, 10	...	,, 8	...	Oct. 7	...
,, 11	...	,, 17	...	,, 15	2	,, 14	1
,, 18	...	,, 24	1	,, 22	...	,, 21	...
,, 25	...	,, 31	...	,, 29	1	,, 28	...
Nov. 1	1	Nov. 7	...	Nov. 5	...	Nov. 4	1
,, 8	1	,, 14	1	,, 12	...	,, 11	1
,, 15	...	,, 21	...	,, 19	...	,, 18	4
,, 22	...	,, 28	1	,, 26	...	,, 25	10
,, 29	...	Dec. 5	...	Dec. 3	...	Dec. 2	14
Dec. 6	...	,, 12	...	,, 10	2	,, 9	23
,, 13	...	,, 19	...	,, 17	...	,, 16	22
,, 20	...	,, 26	1	,, 24	...	,, 23	13
,, 27	...	Jan. 2 (1892)	...	,, 31	1	,, 30	15
Jan. 3 (1891)	...						

In the course of October, 1889, a few cases of Influenza were observed in Manchester, but the Registrar General's returns do not indicate any special fatality from this disease until early in the following year. In April, 1890, with a view of obtaining trustworthy statistics concerning the prevalence of Influenza in the City, I addressed circulars to those of my medical brethren practising in Manchester whose addresses were known to me, asking to be favoured with a statement, on a form enclosed, of the weekly number of new cases of Influenza coming under their care during the previous six months. In reply to my request, I received information of the occurrence of 4,945 attacks within the twenty-five weeks ending with the month of April. The returns were tabulated and thrown into the form presented in the accompanying table, in which the number of attacks and of deaths from Influenza are given for each week, together with such meteorological particulars as promised to be interesting in relation to these events.

According to this table, it was during the first quarter of 1890 that the largest number of cases occurred in the course of its first invasion, 85 per cent. of the recorded attacks having occurred within that period. With the object of arriving at a rough estimate of the extent to which the population of Manchester was suffering from Influenza, at the time when the first epidemic appeared to be at its height—namely, towards the end of February—I addressed communications to the proprietors of most of the large business establishments in the City, asking for information as to the number of persons in their employ who were incapacitated by the prevailing disorder. The replies courteously furnished to me by the proprietors of 146 of these establishments, in which nearly 23,000 persons in the aggregate were employed, conveyed the assurance that less than 2 per cent. of this special community were actually incapacitated by Influenza at the period referred to.

The Manchester Workhouse Infirmary at Crumpsall was the first public institution invaded. The epidemic began there in the first week of December, and terminated with the closing week of March. Amongst an average aggregate population of about 1,200 officers and paupers, 192 cases in all were observed.

The Hulme Cavalry Barracks experienced a sharp visitation of Influenza at the beginning of the year—18 cases in all occurred, amongst a staff of 392 officers and men. All the attacks took place between the 9th and the 21st of January, no further development of the disease having been noted since the latter date.

Her Majesty's Prison in Strangeways suffered somewhat severely from this disease during the month of February, a few subsequent cases occurring about the middle of March. From the 1st to the 15th of February Influenza threatened to become very troublesome, for the Prison contained at that time an average population of 1,000, and of these not less than 57 persons were attacked during that fortnight alone. The total number of persons affected at the Prison during the epidemic was 77.

TABLE 11.—INFLUENZA IN

Statement of Notified Attacks and of Deaths from Influenza in

Data, for each of the 25 weeks from

		1889—Weeks ending								
		NOVEMBER					DECEMBER			
		2	9	16	23	30	7	14	21	28
Number of Influenza Attacks		19	31	39	43	49	94	117	81	94
Percentage of Total Attacks		0·4	0·6	0·8	0·9	1·0	1·9	2·4	1·6	1·9
Deaths from Influenza		0	0	0	0	0	0	0	0	0
Temperature in Shade	Maximum	55·2°	55·8°	56·3°	55·8°	50·6°	43·9°	52·8°	53·9°	52·7°
	Minimum	42·6°	37·7°	36·8°	39·9°	29·0°	31·6°	29·8°	33·0°	33·5°
Mean Temperature	1889–1890	47·6°	48·4°	48·9°	46·3°	38·0°	37·1°	39·6°	44·5°	43·4°
	December Average	46·3°	45·6°	41·7°	43·4°	43·3°	40·7°	39·2°	39·5°	39·4°
Mean Dry Bulb Temp. (1889–1890)		47·2°	48·6°	48·7°	45·9°	37·6°	36·8°	39·6°	45·0°	43·5°
Mean Wet Bulb Temp. (1889–1890)		45·5°	46·9°	47·5°	44·4°	36·4°	34 9°	38·3°	43·5°	41·7°
Mean Humidity per cent.	1889–1890	89	88	92	91	89	84	90	87	86
	December Average	85	84	84	85	84	82	85	85	87
Rainfall (inches)	1889–1890	·810	·043	·460	·200	·460	·385	·788	·894	·190
	December Average	·771	·551	·408	·706	·644	·654	·910	·607	·768
Wind 1889–1890	General Direction	SW	WNW	SW	S	NNW	ESE	S	S	S
	Horizontal Movement	3·2	1·0	0·6	1·3	1·7	1·2	1·9	2·0	1·2

MANCHESTER, 1889-1890.

THE CITY OF MANCHESTER, TOGETHER WITH CERTAIN METEOROLOGICAL

OCTOBER 26TH, 1889, TO APRIL 19TH, 1890.

1890—Weeks ending															
JANUARY				FEBRUARY				MARCH					APRIL		
4	11	18	25	1	8	15	22	1	8	15	22	29	5	12	19
177	203	233	242	316	398	487	600	539	409	290	192	107	65	69	51
3·6	4·1	4·7	4·9	6·4	8·0	9·9	12·0	10·9	8·3	5·9	3·9	2·2	1·3	1·4	1·0
0	0	1	0	3	4	7	3	5	5	6	4	2	2	2	1
50·4°	56·2°	54·3°	55·0°	51·7°	46·8°	46·2°	47·7°	50·2°	51·7°	58·3°	58·8°	60·3°	60·7°	58·0°	54·8°
24·0°	38·7°	37·0°	32·9°	32·0°	31·8°	32·9°	35·1°	29·0°	26·0°	32·0°	37·0°	37·9°	32·0°	33·0°	37·0°
34·7°	47·5°	46·3°	41·6°	42·3°	39·8°	37·2°	40·3°	38·1°	38·6°	46·8°	44·2°	48·2°	43·7°	43·0°	44·2°
40·6°	38·6°	37·4°	40·1°	40·3°	41·3°	39·4°	41·9°	38·9°	41·2°	40·5°	42·4°	42·5°	43·7°	46·1°	47·0°
34·8°	48·0°	46·4°	41·9°	42·5°	39·5°	36·5°	40·0°	38·0°	38·7°	46·5°	43·5°	48·8°	42·6°	43·2°	44·8°
34·4°	45·8°	45·0°	39·7°	41·2°	37·8°	35·1°	38·7°	36·3°	37·2°	44·4°	41·8°	46·8°	39·5°	39·4°	41·8°
95	85	90	84	93	86	88	92	86	87	85	87	86	77	72	77
87	85	86	84	87	86	86	82	83	84	83	79	78	75	78	75
·140	·490	·167	1·455	·760	·020	·060	...	...	·560	·932	·430	·740	·020	·375	·047
·804	·297	·246	·598	·768	·604	·549	·366	·516	·611	·236	·516	·315	·363	·409	·305
S	SSE	WSW	SW	WNW	NE	ESE	E	NE	NNW	SSW	WNW	W	SSE	N	E
1·7	4·1	4·1	3·8	1·6	0·4	1·3	1·4	1·5	3·3	3·4	2·0	1·8	0·2	1·6	2·4

At the Royal Infirmary, no cases were reported during 1889; but from the beginning of January, 1890, down to the 12th April, 53 cases were observed, either amongst the residents or amongst the out-patients.

At the Ancoats Hospital, the first case was reported on the 18th January, 1890, and the last on the 4th March, 78 cases in all being observed by the officers of that institution during the above-mentioned interval.

I desire here to record my appreciation of the generosity and public spirit shown by the governing body of the Ardwick and Ancoats Hospital in offering to place 40 of their beds at the disposal of the Corporation for the isolation of cases of Influenza, at a time when there was every prospect that hospital accommodation would be urgently needed.

St. Joseph's Industrial School remained free from Influenza until the end of the third week in February; but during the fourth week an outburst of the disease occurred, 75 persons being laid up in the course of that week, and 19 more during the next. After this period no further cases occurred.

At the General Post Office the disease was at one time stated to be very prevalent; but at the date of my inquiry only 23 persons out of a staff of 1,600 were suffering from that complaint.

But it was during the second invasion (May-September, 1891) that Influenza showed the greatest prevalence and the heaviest fatality in Manchester. Shortly after the beginning of April, 1891, the general death-rate of the City showed an increase which was greater than could be accounted for by the unseasonable character of the weather at that time. Early in May, however, information reached us from the local registrars that in the course of the last week in April five deaths had taken place which had been medically attributed to Epidemic Influenza. In the first week in May the number of deaths thus certified rose to 37, to be further increased in the two following weeks to 66 and 69 respectively. At this juncture also the registers contained evidence of an unusual number of deaths from diseases of the lungs and air passages—the increase in one week alone, as compared with the average, amounting to nearly 68 per cent. The third (1892) epidemic of Influenza in Manchester, although apparently less fatal than that of 1891, nevertheless extended over a much longer period; in fact, deaths from this disease continued to occur sporadically from the apparent cessation of the epidemic at Midsummer down to the end of 1892. The fourth invasion, or perhaps more accurately recrudescence, of Influenza in the Spring of 1893 was mild in character, and did not greatly increase the mortality for the time being, although considerable interference with business arrangements was complained of in the City. The fifth invasion, which occurred towards the end of 1893, was somewhat like the third in its onset and mode of propagation; but as it had not subsided at the close of the year little further can be said about it in the present report.

TABLE 12.—Annual Rates of Mortality from Influenza at several Age-groups, primary and secondary, and others (altogether).

Stages of Life		City of Manchester				Manchester Township				North Manchester				South Manchester			
		1890	1891	1892	1893	1890	1891	1892	1893	1890	1891	1892	1893	1890	1891	1892	1893
All Ages		0·13	0·76	0·32	0·25	0·20	0·78	0·36	0·14	0·07	0·75	0·28	0·30	0·10	0·77	0·32	0·30
Infancy	0–1	0·18	1·34	0·56	0·42	...	1·68	0·48	0·24	0·52	1·38	0·54	0·27	0·20	1·10	0·62	0·62
Childhood	1–5	0·03	0·28	0·20	0·16	0·07	0·42	0·07	0·14	...	0·08	0·15	0·30	...	0·31	0·31	0·09
School Age	5–15	...	0·06	0·04	0·02	...	0·06	0·06	...	...	0·07	0·07	0·03	...	0·06	0·02	0·02
Adolescence	15–25	0·03	0·21	0·13	0·12	0·03	0·17	0·14	0·14	0·07	0·39	0·19	...	...	0·15	0·08	0·16
Maturity	25–45	0·18	0·72	0·31	0·21	0·32	0·65	0·28	0·12	0·05	0·85	0·31	0·33	0·11	0·70	0·33	0·20
	45–65	0·36	1·93	0·81	0·55	0·43	2·09	1·00	0·34	0·24	1·52	0·43	0·61	0·33	2·04	0·88	0·66
Decline	65 and up.	0·80	6·85	2·21	2·64	1·41	6·48	3·39	0·57	...	7·09	2·21	3·40	0·62	6·93	1·56	3·40

The unequal incidence of fatal Influenza upon persons of different ages is remarkable, as will be seen by the accompanying table. Taking, for example, the year of heaviest Influenza mortality (1891), we find that in infancy (0-1 year) the disease was fatal in the proportion of 134 per 100,000 living. After this age, however, the mortality did not exceed 28 in 100,000 until the 25th year has passed. From the 25th to the 45th year, however, the rate increases to 72 in the same number living, and to 193 in the age-group 45-65; whilst it amounts to 685 per 100,000 after the 65th year has passed (see Table 12). The mean rate of Influenza mortality for the City in 1891 being 76 per 100,000, it might have been anticipated that Epidemic Influenza would have been relatively much more fatal in the poorer and more unhealthy districts of the City. The rate, however, did not exceed 78 in the Manchester Township, whilst it was as high as 77 per 100,000 in the far more salubrious locality of South Manchester, and 75 in the North (see following table).

TABLE 13.

ANNUAL RATES OF MORTALITY FROM ALL CAUSES, FROM INFLUENZA, AND FROM DISEASES OF THE RESPIRATORY, CIRCULATORY, AND NERVOUS SYSTEMS, PER 1,000 PERSONS LIVING, IN THE CITY OF MANCHESTER AND IN ITS MAIN DIVISIONS.

STATISTICAL DIVISIONS		All Causes	INFLUENZA			Diseases of Respiratory System	Diseases of Circulatory System	Diseases of Nervous System
			Primary	Secondary	Total			
City of Manchester	1890	29·17	0·12	0·01	0·13	8·97	1·60	3·07
	1891	25·95	0·68	0·08	0·76	6·77	1·89	3·10
	1892	23·17	0·27	0·05	0·32	5·44	1·84	2·44
	1893	24·26	0·23	0·02	0·25	5·53	1·66	2·51
Manchester Township	1890	35·08	0·19	0·01	0·20	11·15	1·68	3·47
	1891	32·03	0·71	0·07	0·78	8·96	2·26	3·42
	1892	29·99	0·31	0·05	0·36	7·44	2·47	2·68
	1893	30·23	0·13	0·01	0·14	7·46	2·15	2·79
North Manchester	1890	22·20	0·07	...	0·07	6·66	1·24	2·58
	1891	21·62	0·69	0·06	0·75	5·51	1·36	2·71
	1892	18·77	0·27	0·02	0·28	4·25	1·36	2·23
	1893	19·77	0·28	0·02	0·30	4·32	1·32	2·17
South Manchester	1890	26·90	0·09	0·01	0·10	8·03	1·66	2·94
	1891	24·43	0·66	0·11	0·77	6·05	1·95	3·11
	1892	21·30	0·25	0·07	0·32	4·83	1·71	2·40
	1893	23·02	0·27	0·03	0·30	5·01	1·54	2·51

Diarrhœa.

Diarrhœal diseases and Dysentery were accountable for 432 deaths in Manchester during the year 1891, for 418 deaths in the succeeding year, and for 956 in 1893. Of these 1,806 deaths at all ages, 1,611 were those of children under 5 years old, including 1,202 of infants who had not completed their first year of life.

Seasonal Distribution of Diarrhœa Mortality.—Although Diarrhœa is not exclusively a disease of Summer or of Autumn, still it is commonly more prevalent and fatal at that time of year than at other times. This will be seen by the following figures, which show the deaths from Diarrhœa and Dysentery in the several quarters of the last three years.

	1891	1892	1893	TOTAL
First Quarter	45	32	48	125
Second Quarter	64	36	131	231
Third Quarter	217	275	688	1180
Fourth Quarter	106	75	89	270

The deaths from Choleraic Diarrhœa, or English or Simple Cholera, are included amongst the deaths from Diarrhœa and Dysentery in this table.

Meteorology in relation to Diarrhœa Prevalence.—In the subjoined table are shown the rates of mortality from Diarrhœa and Dysentery in Manchester during the third quarter of each year of the last decade, together with certain meteorological data for the several quarters.

Third Quarter of the years	Mean Temperature	Rainfall	Humidity, per cent.	Diarrhœa Mortality. Annual Rate per 1,000 living
1883	58°·1	11·0	77 °/o	2·26
1884	61°·4	3·6	71 °/o	4·00
1885	56°·8	7·3	73 °/o	1·56
1886	59°·1	11·4	75 °/o	3·42
1887	59°·0	7·7	73 °/o	3·38
1888	56°·5	11·2	77 °/o	1·36
1889	57°·7	10·5	73 °/o	2·61
1890	58°·8	8·1	74 °/o	2·28
1891	58°·2	12·8	79 °/o	1·57
1892	57°·0	12·5	78 °/o	2·07
Mean	**58°·3**	**9·6**	**75 °/o**	**2·45**
1893	60°·4	10·7	74 °/o	4·95

Speaking generally, there is no doubt that Epidemic or Autumnal Diarrhœa has a close relation to temperature and a perhaps less close one to rainfall, and that this is so may be gleaned from the preceding table. For example, the Autumn of the year 1884 was both the hottest and by far the driest of the decade 1883–92, the mean temperature exceeding the average for the third quarter by 3·1 degrees, whilst the rainfall was little more than one-third of the quarterly average; and again, the Autumn of 1893 was also a very hot one, although it was wetter by far than that of 1884. Accordingly we find that the annual death-rate from Diarrhœa for both these periods was higher than in any corresponding quarter of the 10 years. On the other hand, the third quarter of 1888 was the coldest of the ten, the mean temperature being in defect by nearly two degrees, and the rainfall in excess by 1·6 inches. In this quarter the Diarrhœa death-rate did not exceed 1·36 per 1,000 annually, and was lower than the quarterly average by 1·09 per 1,000.

Local Distribution of Diarrhœal Mortality.—The following table, which relates to the three years 1891, 1892, and 1893, shows the average annual rates of mortality from Diarrhœa in each of the townships of Manchester. It will there be seen that the districts which are subject to the heaviest mortality from this disease are Bradford (where the rate is 1·93 per 1,000 of the population) and Ancoats (where it is 1·70). The Northern Townships of the City are here shown to be those where the mortality from Diarrhœa is the lightest.

DIARRHŒA.—AVERAGE ANNUAL DEATH-RATE, 1891-92-93

Townships	Average Death-rate	Townships	Average Death-rate
Bradford	1·93	Hulme	0·97
Ancoats	1·70	Chorlton-upon-Medlock	0·85
Central	1·47	Rusholme	0·82
St. George's	1·27	Beswick	0·80
Clayton	1·24	Crumpsall	0·76
Gorton	1·22	Cheetham	0·59
Openshaw	1·21	Moston	0·55
Newton	1·05	Blackley	0·50
Ardwick	1·01	Harpurhey	0·50

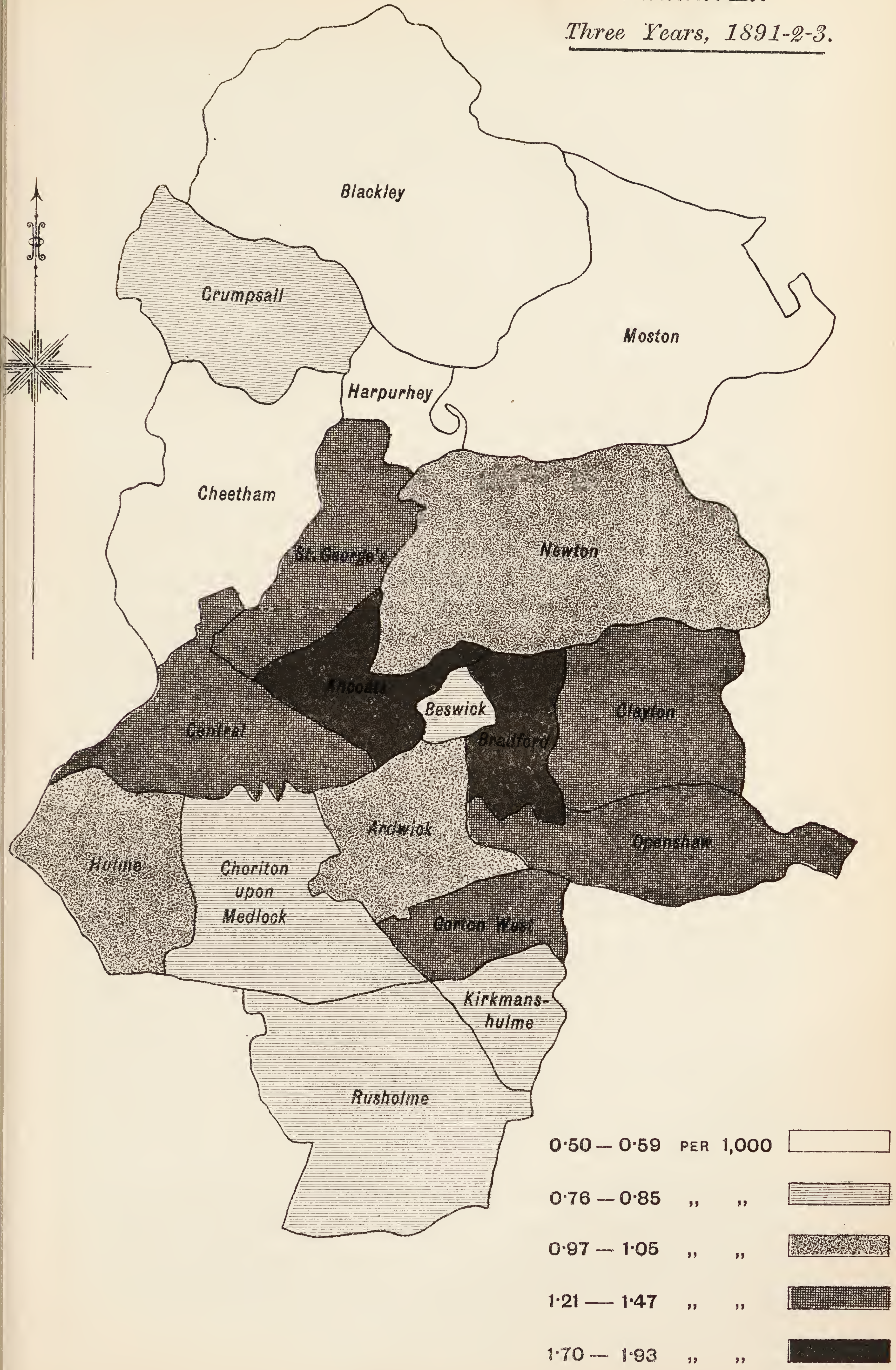
Diarrhœa Map.—The accompanying map has been constructed with the aid of these figures, in order to show graphically the local distribution of Diarrhœa mortality. Gradations of shading have been employed to indicate the varying rates of Diarrhœa mortality in the several areas of the City.

GREATER MANCHESTER.

Average Death Rates from

DIARRHŒA

Three Years, 1891-2-3.



Diarrhœa Mortality in other parts of the country.—The following table shows the relative incidence of Diarrhœa mortality in other parts of Great Britain as well as in Manchester. The figures represent rates for the entire year, not for the third quarter only.

DIARRHŒA MORTALITY.—ANNUAL RATE PER 1,000 LIVING.

	1888	1889	1890	1891	1892	Mean	1893
England and Wales	0·46	0·65	0·61	0·47	0·48	**0·53**	0·96
33 Great Towns	0·63	0·86	0·82	0·65	0·70	**0·73**	1·23
London	0·52	0·62	0·61	0·59	0·60	**0·59**	0·80
City of Manchester ...	0·78	1·07	1·19	0·81	0·79	**0·93**	1·75
Manchester Township ...	...	...	...	1·08	1·08	...	2·22
North Manchester	...	...	...	0·70	0·68	...	1·49
South Manchester	...	...	...	0·69	0·67	...	1·59
50 Other Towns	0·50	0·74	0·64	...	...	**0·63**	...
67 Other Towns	...	...	...	0·53	0·57	...	1·24
Rural Districts	0·31	0·48	0·41	0·32	0·32	**0·37**	0·72

It thus appears that in Manchester the rate of mortality due to Diarrhœa was heavier than in any of the other localities in the table, and this not only in the year 1893, but on the average of the years 1888–92. As in past years, so also in the year 1893, the Manchester Township was the division in which Diarrhœa was most fatal, the rate there in that year being equal to 2·22 per 1·000, as compared with 1·49 in North Manchester and 1·59 in South Manchester.

Asiatic Cholera.—In consequence of the serious prevalence of Asiatic Cholera in various parts of the Continent, as the Summer of 1893 advanced the public mind of Manchester grew increasingly apprehensive lest persons suffering from that much dreaded disease should find their way into Manchester from abroad, and thus an epidemic might ensue. Early in June, I presented to the Sanitary Committee a special report on the subject, of which the following is a copy :—

REPORT OF THE MEDICAL OFFICER OF HEALTH.

Re DIARRHŒA AND CHOLERA.

The Medical Officer of Health desires to draw the attention of the Committee to the danger which at present threatens, that Diarrhœa of a severe kind will affect large portions of the infantile population of Manchester, should the present drought and intense heat continue.

Although Diarrhœa has not as yet added many victims to the weekly death roll in Manchester, nevertheless there are indications that the disease has begun, and frequent applications for Diarrhœa medicine have already been made at the several depots from which it has been dispensed in recent years.

It is a matter of experience that Diarrhœa always becomes prevalent with us as soon as the Earth Thermometer reaches a temperature of 56° at a depth of four feet from the earth's surface. The temperature at that depth has this morning attained the height of 55·8°, and there is no doubt that, should it continue to rise, Epidemic Diarrhœa will be the result.

Supplies of the ordinary astringent medicine have been forwarded to the Police and Fire Stations, &c., of the City, and the Chief Constable has been asked to facilitate the distribution of the medicine to those who require it.

In consequence, however, of the continued drought, the Medical Officer of Health is of opinion that immediate steps should be taken for the watering of the streets and the flushing of the sewers. He has ascertained that abundance of water of sufficient purity for this purpose can be obtained by pumping from wells in the New Red Sandstone, and from certain disused and flooded collieries in the neighbourhood.

The Medical Officer of Health accordingly urges the Committee to take whatever steps are practicable for giving effect to this recommendation.

Having regard to the fact that Cholera is already reported prevalent at certain places on the Continent which are in more or less direct communication with this country, the Medical Officer of Health has caused to be printed and circulated a large number of handbills recommending precautions against both Choleraic Disease and the Diarrhœa which is known almost invariably to precede Cholera. At foot is the text of the handbill.

PRECAUTIONS AGAINST DIARRHŒA AND CHOLERA.

Diarrhœal Diseases, including Cholera, are propagated mainly by filth, the germs of disease finding their way into the human system by means of tainted air, tainted water, or tainted food. Having regard to this fact, and in view of the probable spread of diarrhœal sickness during the current season, it is desirable that the public should assist the Sanitary Authorities in their endeavours to secure the prompt removal of filth of all kinds from amidst the homes of the people.

It should be borne in mind that preventive measures, *taken beforehand*, are of far greater avail for the protection of a community against Cholera or Diarrhœa than would be the removal or the disinfection of filth *subsequently to the actual appearance* of those disorders. Attention is therefore directed to the following points :—

(a) The Corporation have made provision for the removal of excremental filth from all privies and closets in the City ; but should the scavengers in any case neglect this duty, the fact should be immediately reported at the nearest scavenging office ; or, as a last resource, to the Medical Officer of Health, by letter addressed to him at the Town Hall, Manchester. All vegetable refuse should at once be burnt : it should not be put into the ashpit.

(b) It is the duty of every tenant to ascertain that the drainage of his house is free from defects which may lead to the pollution of the air by sewer gas. The Sanitary Inspectors of the Corporation, in the course of their daily visits, are constantly searching for drainage defects, which are promptly attended to when discovered ; but in a large community like this it is certain that many evils of this kind will escape detection unless the Sanitary Authorities receive the hearty co-operation of the public. All drains should be frequently flushed with clean water, and care should be taken that the grids at their inlets are kept free from obstruction.

Having regard, further, to the probability that infected persons from abroad may find their way into Manchester, and to the desirability that in such case we may be prepared beforehand for their immediate isolation and treatment, it becomes desirable that the Committee should again approach the Infirmary Authorities with the object of ascertaining definitely whether they are prepared to undertake the isolation and treatment of any reported cases in the event of such presenting themselves in the City.

From what he knows of the present resources of Monsall, the Medical Officer of Health thinks it probable that the Infirmary Authorities might be induced to comply with such a request as this, if addressed to them by the Sanitary Authority of the City of Manchester.

JOHN TATHAM, M.D.,
Medical Officer of Health.

The Hospitals Sub-Committee,
June 29th, 1893.

On receipt of this report, the Hospitals Committee forthwith made arrangements with the Infirmary Authorities to receive for treatment any patients which might be sent by the Corporation as the Urban Sanitary Authority of Manchester. For this purpose a considerable additional area of ground was acquired contiguous to the existing Monsall Hospital, and temporary wards were erected sufficient to meet probable emergencies. The Hospitals Committee likewise authorised the Medical Officer of Health to make arrangements with Professor Sheridan Delépine, of the Owens College, to make bacteriological examinations in any cases in which that course seemed to him advisable. Accordingly, Professor Delépine most kindly placed his services at the disposal of the Medical Officer of Health, and held himself in readiness, both by night and by day, to deal with suspicious choleraic cases as they may arise.

(c) Care should be taken to secure the freest possible circulation of air in every apartment used as a dwelling or as a sleeping apartment, and for the exclusion of all refuse from it. The floors of all living rooms should be frequently scrubbed with soap and soda; and the walls of every court, cellar, passage, and privy should be thoroughly cleansed and limewashed at frequent intervals.

(d) Fermented liquors should be used but sparingly. Unripe fruit should be avoided, and so, likewise, should fruit which has been overkept, or which has become sodden with rain. Fish of all kinds, unless perfectly fresh, should be avoided. Special care should be taken to protect infants from cold; their food should consist chiefly of milk, which should always be boiled before use. In very hot weather, milk may be prevented from turning sour by the addition to it of a small quantity of limewater.

If the public would only carry out the simple precautionary measures herein suggested, it is very improbable that, even in the event of the importation of a case of Cholera, the disease would obtain any considerable foothold amongst us. Above all things it is desirable to avoid panic. Every case of bowel disorder should receive prompt attention from a qualified medical practitioner. Diarrhœa Mixture may now be obtained free of charge by poor people at the several Police and Fire Stations of Manchester, at the Ardwick Town Hall, and at the City Police Courts; also at the Public Health Office in this Town Hall, and at the various Cleansing Depots of the City.

JOHN TATHAM, M.D.,
Medical Officer of Health.

Public Health Office,
Town Hall, Manchester.

Happily only a few cases of this kind presented themselves in Manchester; but in the four cases which actually did occur, investigation proved the conditions to be so serious as to justify and demand the taking of all the precautions that were taken. The following are short notes of the cases that came under the notice of the Medical Officer of Health in the course of the Autumn of 1893:—

Case A.

Mary C., æt. 44, of 21, Kay-street, West Gorton. The first indication respecting this case was derived from a newspaper paragraph, dated September 15th. The patient died in the Withington Union Hospital on the morning of September 15th, and the cause of her death was certified by Dr. Orchard to be Choleraic Diarrhœa—9 days.

Mr. H., medical attendant of this patient before removal to hospital, is away at present. I, therefore, can obtain no information from him for the present. There is no evidence that Mary C. had been in an infected place, or that she had been in any way exposed to infection. On the afternoon I called on the Medical Superintendent at Withington Hospital, and obtained from him the following notes of the case:—

"Mary C., æt. 44, was admitted (together with case B, Mary M., her mother-in-law) on the night of September 14th. M. C. was on admission cold, unconscious, collapsed, and, in fact, was dying. Her face presented a 'pinched' appearance, with dark rings round the eyes. She never rallied, but died on the morning of September 15th. From the above-mentioned Mary M. (mother-in-law to this patient), Dr. Orchard gathered that Mary C. began to be ill on August 30th with purging, cramps, and vomiting. She has been ill from that date till her death. About 24 hours after death Dr. Orchard removed from the body portions of the ileum, liver, and kidney, and placed them in sterilized bottles, which were sent to me."

Bacteriological Examination by Professor Delépine, M.B.—Illness of Mary C, received September 16th, at 1-0 p.m:—

> "Contents composed of very thick mucus, deeply stained with biliverdin. Walls slightly congested. No swelling of either Peyers or solitary glands. A large number of bacteria present among the flakes of desquamated epithelium. Among the bacteria a few comma-shaped bacilla, not grouped in any typical fashion. After cultivation in peptan solution, and on gelatine, typical characters of the cholera spirillum were obtained. I conclude that the spirillum associated with Asiatic Cholera was present in this case.

(Signed) "SHERIDAN DELÉPINE.

"Owens College,
"September 20th, 1893."

CASE B.

Mary M., æt. 73, 21, Kay Street, West Gorton (mother-in-law of Mary C., previous case). The first intimation as to this case was by newspaper paragraph, as in the previous case. The patient slept with her daughter-in-law (Mary C., case A). She was taken ill about the same date, although less severely, and was removed with Mary C. to the Union Hospital. As regards absence of evidence of exposure to infection, the remarks made with regard to Mary C. apply equally to the present case.

By the kind permission of Dr. Orchard, I saw this patient in hospital on September 15th. She was then very weak, but had no acute symptoms, and the diarrhœa, which had been considerable, was at that time reduced to two or three stools a day, with very little cramp or pain. The countenance was not markedly anxious, and the patient was warm and comfortable. She expressed herself as being much easier. A quantity of fœces passed by this patient on the morning of the 16th inst. were sent to me for examination by Dr. Orchard.

Bacteriological Examination by Professor Delépine.—Fœces of Mary M., received at 1-0 p.m., September 16th:—

> "Very fœtid, pale yellow, semi-fluid. Numerous epithelial flakes present. A large quantity of micro-organisms. After cultivation, as in the preceding case, spirilla of Asiatic Cholera were found.
>
> *(Signed)* "SHERIDAN DELÉPINE.
>
> "Owens College,
> "20th September."

CASE C.

Rebecca D., æt. 53, married, of 7, Homer Street, Ancoats. The husband of this patient (Andrew D., case D) returned from Grimsby on September 10th, and was taken ill with diarrhœa, cramps, &c., on the 11th. The first intimation regarding Rebecca D. was by letter addressed to the Medical Officer of Health by Dr. Sutherland, medical attendant of the patient, the letter being received on the morning of the 16th September, and being as follows:—

> "I think it my duty to inform you that a death from an illness of less than 24 hours' duration has taken place this evening, with all the symtoms of Cholera, at 7, Homer Street, St. Andrew Street. The subject was a woman past middle age, and it is important to state that her husband is recovering from a similar attack, and that, as I gather, he has just returned from Grimsby.
>
> "Yours, &c.,
> "J. SUTHERLAND, M.D.
>
> "To the Medical Officer of Health."

This patient was first seen by Dr. Sutherland's Assistant on the morning of the 15th, and by Dr. Sutherland himself on the evening of the same day. When first seen by Dr. Sutherland's Assistant, he considered the patient to be suffering from Cholera, and that she would die. Her symptoms were those of vomiting, purging, and cramp, the stools being flaky and colourless. When Dr. Sutherland saw her in the evening of the same day, he found her collapsed, bluish coloured, and cold. She could not speak, but merely muttered indistinctly. She died on the evening of the 15th, at eight p.m.

At my suggestion, Dr. Sutherland kindly obtained the family's consent for a post-mortem examination, which he made on the 16th inst. He removed a portion of ileum with its contents, and also certain of the other viscera, all of which were forwarded to Prof. Delépine.

Bacteriological Examination.—Ileum received on September 16th, at 3 p.m. :—

> "The stools were quite fluid, watery, with greyish flakes suspended in the fluid; very fœtid. Curved bacilli were observed in the epithelial masses, but not grouped in any typical fashion. After cultivation, spirilla of Asiatic Cholera were isolated, and yielded positive results with the usual tests.
>
> *(Signed)* "SHERIDAN DELÉPINE.
>
> "Owens College,
> "20th September, 1893."

N.B.—This case will be better understood after reading the history of the following case (D).

CASE D.

Andrew D., æt. about 60, late of 7, Homer Street, where his wife (case C) died on the 15th, and now of 14, Ellesmere Street, West Gorton.

This man left Manchester on September 2nd, and went to Sheffield on that day, *en route* for Grimsby, where he arrived on the morning of the 5th. From this date until the morning of September 9th he was at Grimsby, lodging at the house of a tobacconist near the docks. He does not know the exact address, nor the name of the tenant. He returned here on Sunday night the 10th instant. On the following morning he was taken ill with purging, vomiting, cramps, &c. He called in the doctor on Wednesday, and has been ill ever since.

By the kindness of Dr. Sutherland, I was permitted to see this patient on the 20th instant. He was then extremely prostrate, and depressed. His diarrhœa had given way to treatment, and he appeared easier. No stools were procurable from this patient, and therefore no bacteriological examination was practicable.

It will be remembered, in connection with this case, that Rebecca D., the present patient's wife, was taken ill with diarrhœa, vomiting, &c., just three days after his return from Grimsby.

JOHN TATHAM.

It is scarcely necessary to add that in all the above cases exceptional care was taken with a view to prevent the spread of infection. In regard to the patients treated at the Withington Union Hospital, I know that every possible precaution was taken by Dr. Orchard and the hospital staff; and, as regards the two other patients treated outside, I believe that no feasible precaution was omitted. The excreta were received into a special vessel containing strong disinfectant, and were burnt in the destructor; no fœcal matters from the infected patients were allowed to get into the privies or the drains; and all clothes and other articles which had been in contact with the sick were either promptly burnt or were so thoroughly disinfected as to leave no ground for fear of after effects. The patient who died was placed in a coffin lined with absorbents and the strongest disinfectants, and the funeral was conducted with all care under the immediate supervision of the Sanitary Inspector for the district. The rooms in which the patients had lain were fumigated, and afterwards the ceilings, floors, and walls were washed with a strong solution of caustic soda. Happily, no further attack arose in connection with the reported cases; the inference, therefore, is that the precautions taken were successful.

CLASS II.—PARASITIC DISEASES.

CLASS III.—DIETETIC DISEASES.

The deaths from these diseases during the years 1891-93 were comparatively few in number, and particulars with respect thereto may be gleaned from the tables on pages 83 to 101.

CLASS IV.—CONSTITUTIONAL DISEASES.

In the course of the year 1891 as many as 2,123 deaths were referred to one or other of the diseases included in this class, 1,987 deaths in the year 1892, and 2,039 in the year 1893. These deaths were equal to a rate of 4·17 per 1,000 at all ages in the former year, of 3·87 in 1892, and of 3·94 in the latter year. Of the 6,149 deaths referred to Constitutional Diseases in these three years, not fewer than 4,778 were deaths from Tubercular Disease, the various forms of which are so terrible a scourge to children and young adults. The total also includes 936 deaths from Cancer, a disease which, in spite of all efforts to prove the contrary, is apparently steadily on the increase in England generally, as well as in Manchester.

Rheumatic Fever, another disease of this class, is one, the full significance of which is by no means expressed by the 131 deaths which have been attributed to it in the last three years. In many cases this disease gives origin to heart affections of a serious character, which frequently rob the victims of much of the usefulness and of most of the pleasure of life.

TUBERCULAR DISEASE (SCROFULA).

Although under our present system diseases of this nature are classed with "Constitutional Diseases," nevertheless, as there is no reason to doubt either their communicability or their preventability, it is at any rate convenient that the question of their prevalence should be considered in connection with that of other preventable maladies. Out of the total deaths registered in Manchester during the last completed decade (1881-90), not fewer than 13½ per cent. were referred to this great class of Tubercular Diseases. They were therefore fatal on the average to 3·27 per 1,000 annually of the population at all ages. By far the most important and lethal member of this class is Tubercular Phthisis (Pulmonary Consumption), a disease which in the last decade gave rise to an annual death-rate equal to 2·33 per 1,000 of the population. During the last three years, out of a total of 37,654 deaths from all causes, as many as 4,778 deaths, or more than one-eighth of the whole, were caused by Tubercular Diseases; 3,230 of these, or 2·10 per 1,000 of the population, being due to Phthisis alone. As compared, then, with the mean annual mortality from Phthisis in the ten years 1881-90, the mortality in the last three years was lower by ten per cent.; and as this amount of life saving has been effected in spite of increasing density (which tends to increase Phthisical mortality), its attainment is a matter for satisfaction.

The subjoined table is interesting as showing the ages at which the various forms of Tuberculosis are more especially fatal. The figures relate to the three years 1891-93, and give the mean annual rates of mortality per 1,000 persons living at the several ages.

Forms of Tuberculosis	All Ages	Childhood, Under 5 Years	School Age, 5 to 15	Adolescence, 15 to 25	Maturity, 25 to 65	Entire Working Period, 15 to 65
All Forms	3·11	6·73	0·89	1·88	3·82	3·19
Phthisis	2·10	0·36	0·32	1·69	3·73	3·07
Tabes Mesenterica	0·24	1·85	0·03	0·00	—	—
Hydrocephalus ...	0·36	2·31	0·26	0·04	0·01	0·02
Other forms	0·41	2·21	0·28	0·15	0·08	0·10

With regard to Phthisical mortality, it is worth noting that inasmuch as its principal relative incidence is upon persons at the prime of life (from 25 to 65 years), a large proportion of the lives saved by suitable agencies would probably be those of parents of families, or at any rate bread winners, who are, economically, the best worth preserving. On the average of the three years 1891-93, the death-rate from Phthisis during the prime of life is equal to 373 per 100,000 of the population living at that age, whereas during childhood and school age the mortality does not exceed 36 and 32 respectively in the same number living.

The sexes are subject to Phthisis in very different degrees. This will be seen on reference to the following table, which gives the Phthisis mortality in both sexes at certain age-groups during the years 1891-93.

ANNUAL RATES OF MORTALITY FROM PHTHISIS.

	All ages	15 to 25	25 to 45	45 to 65	Over 65
Males ...	2·65	1·89	4·78	5·31	2·60
Females ...	1·59	1·51	2·82	2·23	0·68

PHTHISIS DEATHS, PER CENT. OF TOTAL DEATHS.

	All ages	15 to 25	25 to 45	45 to 65	Over 65
Males	10 °/。	34 °/。	34 °/。	13 °/。	2 °/。
Females ...	7 °/。	30 °/。	24 °/。	7 °/。	1 °/。

From these figures it appears, and the experience of 1891-93 is borne out by that of previous years—(1) that at all ages males are very considerably more liable to death by Phthisis than are females; at the age 45-65 years the mortality amongst men is more than double the rate amongst women, and at the age 25-45 the male rate exceeds the female by 70 per cent.; and (2) that as regards the proportion of persons dying of Phthisis to those dying from all causes, there is the same tendency to excess amongst males. The table shows that whereas more than one-third of the male deaths at the age 25-45 years are from Phthisis, not quite one-fourth of the female deaths at the same age are from that disease.

With regard to the other forms of Tuberculosis—Scrofula, Tabes Mesenterica, Hydrocephalus (Tubercular Meningitis), &c.—it is in the first five years of life that the principal fatality occurs. This is shown by the table on the opposite page, where the mortality from all forms of Tuberculosis (exclusive of Phthisis) is seen to be equal to 637 per 100,000 living under five years, whilst it falls to 57 in the same number living during school age (5-15). After that period the mortality from these diseases becomes insignificant.

As regards the local distribution of mortality from Tubercular Diseases, Table L, on page 114, furnishes useful information. Taking the three years 1891-93, we find that the average death-rate from these diseases, in the City generally, was equal to 310 in 100,000 living. The rate was lowest, 199 per 100,000, in North Manchester, whilst it amounted to more than double that rate, or 406 per 100,000, in the unhealthy districts of the Manchester Township.

There are, happily, few educated persons now-a-days who look upon the present heavy death-toll from Tubercular Diseases as inevitable. The labours of sanitary reformers have proved diseases of this class to be largely amenable to preventive treatment, and there is reason to hope that by the adoption of appropriate measures we shall eventually be able to reduce our Tubercular mortality as effectually as the mortality from infectious diseases has already been reduced.

It should always be borne in mind, in connection with the high mortality from Pulmonary Consumption, that it is not alone the dregs of society who are laid low by this ruthless destroyer; it is the daughters, the wives, the sons, the fathers, the bread winners—it is the very backbone of our country who are the victims, at least equally with the criminal and the outcast. I do not hesitate yet again to affirm, and in this I am supported by the highest medical authority, that if only the elementary teachings of sanitary science were carried into practice with the same solicitude which we always show in providing for the well-being of the cattle that serve us for food, the mortality from this disease would within a few years be reduced to a mere fraction of its present terrible proportions.

Sir George Buchanan has shown that wetness of soil is a fruitful cause of Phthisis; and he has found that in certain specified localities the fatality of this disease has diminished *pari passu* with the completion of effective operations for the deep drainage of the subsoil. Overcrowding in damp and ill-ventilated rooms is another frequent predisposing cause of the spread of Phthisis. It is an unusual thing to find a well-ventilated apartment, even in the homes of the well-to-do; but in the dwellings of the labouring classes it is still less usual. If we could thoroughly ventilate the rooms both of the rich and poor, if we could secure the efficient drainage and drying of damp subsoils, whilst at the same time the great vice of overcrowding was discontinued, we should have done much to diminish the present heavy death-toll due to Phthisis.

CLASS V.—DEVELOPMENTAL DISEASES.

1,977 deaths were referred to diseases of this class during the years 1891, '92, and '93, the mortality being equal to a mean rate of 1·28 per 1,000 living. Of the 1,977 deaths referred to this class, 1143 were amongst infants under one year of age, and the remainder amongst persons in the decline of life: premature birth, congenital malformations, &c., being responsible for 58 per cent. of the deaths, and old age for the remainder.

CLASS VI.—LOCAL DISEASES.

To the group of diseases composing this class, not fewer than 19,170, or rather more than half the registered deaths from all causes in the three years under notice, were referred. The deaths from Local Diseases registered in 1891 were equal to a rate of 13·8 per 1,000 persons living, which is the highest rate recorded from this class in recent years; in 1892 the deaths from Local Diseases were in the proportion of 11·8, and in 1893 of 11·8, per 1,000 persons living. Of the diseases included in the "Local Class," those of the Circulatory and Respiratory Systems showed remarkable excess in the years 1890 and '91 as compared with the previous decade, and there is little doubt that the excess is largely attributable to the prevalence of Influenza in each of those years.

Table M on page 116, which refers to the three years 1891–93, shows at what periods of life the principal diseases of the Local Class are fatal. Thus we see that Diseases of the Brain, whilst they are seldom fatal during the 20 years of school-life and adolescence, commence to become fatal about the 45th year, and at ages over 65 cause more deaths in proportion to population than even in childhood. Heart Diseases claim few victims during the first 25 years of life; but from the age of 45 onwards, they, like Brain Diseases, become more and more frequent factors in the death-rate; whilst during the decline of life they are at least as lethal as are the last-mentioned diseases. Diseases of the Lungs, however, cause by far the heaviest mortality of any disease of the Local Class. In infancy they are responsible on the average for one-fourth of the deaths from all causes; and although in the 20 years period from 5 to 25 they do not often appear in the death-roll, yet from this latter age they again begin to become increasingly fatal; whilst at ages from 65 upwards they account for not fewer than one-third of the deaths from all causes. Diseases of the Digestive and of the Urinary System are most fatal in old age, and the former of them are also very fatal in early childhood; but diseases of the Urinary System do not carry off many victims before mid-life is reached, after which they are responsible for an increasingly heavy death-toll up to the end of existence.

CLASS VII.—VIOLENT DEATHS.

In the three years under notice, 1,190 deaths were referred to violence in some of its forms: the deaths thus returned being equal to 3·2 per cent. of the total deaths, and to 0·77 per 1,000 of the estimated mean population.

CLASS VIII.—ILL-DEFINED CAUSES.

The deaths included under this unsatisfactory heading are those which are either undefined or so imperfectly defined as to be worthless for any statistical purpose. For example, the following are some of the terms often used to describe death-causes in the course of the last three years:—Atrophy, Debility, Wasting, Dropsy (without statement of disease producing it), Hæmorrhage, Found dead in bed, Sudden Deaths, &c., &c. The deaths thus registered in the three years under present notice were as many as 2,632 in number; and their proportion to deaths from all causes was equal to 7 per cent.

CERTIFICATION OF THE CAUSE OF DEATH.

Of the 37,654 deaths registered during the three years 1891-93, the causes of 34,363 or 91·3 per cent. were certified by registered medical practitioners, and the causes of 2,650 or 7·1 per cent. by coroners after public enquiry, while the causes of 641 or 1·6 per cent. were uncertified either by medical men or by the coroner after inquest. (See Table O, pages 120–122.)

DEATHS OCCURRING IN PUBLIC INSTITUTIONS.

Of the total deaths recorded in the three years under present notice, 6,932 or 18 per cent. took place in public institutions (see Table 2, page 15). In London during the same period the proportion was 26 per cent., and 19 per cent. in the Great English Towns of the Registrar General.

TABLES.

TABLE A.

Density of Population per Acre and per House.

	STATISTICAL AREAS	HOUSES				PERSONS PER			
		1881		1891		Acre, Including Institutions		House, Excluding Institutions	
		In-habited	Empty	Inhabited	Empty	1881	1891	1881	1891
	City of Manchester	**90,717**	**11,034**	**100,249**	**5,179**	**36**	**40**	**5·02**	**4·98**
I.	Manchester Township...	29,446	3,530	28,895	1,957	90	88	5·02	4·99
II.	North Manchester	19,623	2,827	24,426	980	14	18	5·07	5·03
III.	South Manchester	41,648	4,677	46,928	2,242	53	59	5·00	4·91
	(TOWNSHIPS)								
I.	Ancoats	9,784	1,001	9,538	732	120	115	4·91	4·82
	Central	7,667	1,016	6,863	620	56	51	5·35	5·45
	St. George's..............	11,995	1,513	12,494	605	119	123	4·93	4·89
II.	Cheetham	4,511	519	5,027	335	28	32	5·50	5·65
	Crumpsall	974	126	1,531	76	11	14	5·17	4·87
	Blackley	1,281	220	1,527	67	3	4	4·57	4·65
	Harpurhey	990	361	1,787	71	25	43	4·86	4·69
	Moston	685	188	1,070	38	3	4	5·00	4·78
	Newton Heath	5,872	587	6,846	228	22	25	4·95	4·92
	Bradford	3,205	553	4,002	104	56	69	5·02	4·99
	Beswick	1,603	162	1,962	43	83	101	4·97	4·95
	Clayton	502	111	674	18	5	7	4·74	4·94
III.	Ardwick	6,334	593	7,234	311	61	69	4·88	4·80
	Openshaw	3,349	428	4,950	199	28	41	4·82	4·83
	Gorton (West)...........	4,153	866	5,098	205	60	72	4·91	4·81
	Rusholme and Kirk. ...	2,642	329	3,389	170	10	12	5·34	5·06
	Chorlton-upon-Medlock	10,935	1,207	11,793	731	86	92	5·02	4·99
	Hulme	14,235	1,254	14,464	626	151	151	5·03	4·95

TABLE B, 1891.—MANCHESTER.

Causes of Death at different Life Periods in the 52 weeks of the year.

PERSONS.—(MALES AND FEMALES.)

CAUSES OF DEATH	Ages at Death													
	All Ages	Under 5 Years		5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
		0 to 1	1 to 5											
All Causes	13202	3299	2225	376	168	258	323	846	1207	1382	1374	1168	503	73
I. Zymotic Diseases	2122	600	776	114	35	44	62	100	114	99	72	67	36	3
II. Parasitic Diseases......	11	10	1	...	...	...	...	...	...	...	...	...	...	...
III. Dietetic Diseases	89	10	...	...	...	...	1	16	32	16	9	5	...	...
IV. Constitutional Dis:...	2123	215	304	69	47	105	114	318	361	311	183	77	19	...
V. Developmental Dis:...	665	362	2	...	...	...	...	...	...	1	17	112	130	41
VI. Local Diseases	7011	1475	1029	167	76	94	124	369	639	869	1008	843	292	26
VII. Violence	404	134	36	17	9	12	16	27	39	41	39	22	11	1
VIII. Ill-Defined Causes ...	777	493	77	9	1	3	6	16	22	45	46	42	15	2
I.—Zymotic Diseases.														
1. Miasmatic Diseases.														
Smallpox.. Vaccinated	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox.. Unvaccinated	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Smallpox.. No Statement......	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chickenpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	220	42	166	11	..	...	1	...	...	...	...	...	...	...
Epidemic Rose Rash	1	...	...	1	...	...	...	...	...	...	...	...	...	...
Scarlet Fever.......................	114	3	75	30	5	...	...	...	1	...	...	...	...	...
Typhus	7	...	...	...	...	1	1	3	...	2	...	...	...	...
Relapsing Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	347	16	13	4	3	9	10	32	58	66	54	51	30	1
Whooping Cough.................	518	194	304	19	1	...	...	...	...	...	...	...	...	...
Mumps	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Diphtheria..........................	122	7	74	28	2	3	3	2	2	1	...	...	...	...
Membranous Croup..............	6	2	4	...	...	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Simple and Ill-defined Fever...	6	1	2	1	1	...	...	...	...	...	1	...	...	...
Enteric Fever	189	2	10	14	21	27	28	32	34	14	5	1	1	...
Other Miasmatic Diseases	...	...	...	...	..	...	...	...	...	...	...	...	...	...
2. Diarrhœal Diseases.														
Simple Cholera.....................	22	9	9	...	...	...	1	...	...	2	...	1	...	...
Diarrhœa, Dysentery	410	269	103	5	2	...	...	2	4	4	9	8	3	1
3. Malarial Diseases.														
Remittent Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ague	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Zoogenous Diseases.														
Hydrophobia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Glanders.............................	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Splenic Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cowpox; other effects of Vac:...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
5. Venereal Diseases.														
Syphilis	58	41	9	...	...	...	1	3	2	1	...	...	1	...
Gonorrhœa, Stricture of Urethra	9	...	...	...	...	...	...	2	...	4	1	1	1	...
6. Septic Diseases.														
Phagedæna	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	30	12	3	...	...	...	...	1	2	5	1	5	...	1
Pyæmia, Septicæmia	8	2	2	1	...	...	2	...	...	...	1	...	...	...
Puerperal Fever	53	...	...	...	...	4	15	23	11	...	...	...	...	...
II.—Parasitic Diseases.														
Thrush	10	10	...	...	...	...	...	...	...	...	...	...	...	...
Other Dis: from Veg: Parasites	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hydatid Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Dis: from Animal Par:...	1	...	1	...	...	...	...	...	...	...	...	...	...	...

TABLE B, 1891—*continued.*

CAUSES OF DEATH	Ages at Death													
	All Ages	Under 5 Years 0 to 1	Under 5 Years 1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
III. –Dietetic Diseases.														
Starvation, Want of Breast Milk	14	10	...	...	...	...	...	...	2	...	...	2	...	...
Scurvy	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Intem: { Chronic Alcoholism	57	...	...	...	...	...	...	7	26	13	8	3	...	...
Intem: { Delirium Tremens	18	...	...	...	...	...	1	9	4	3	1	...	...	...
IV.—Constitutional Diseases.														
Rheum: Fev: Rheum: of Heart	48	2	1	4	3	2	5	14	8	7	1	...	1	...
Rheumatism	14	...	...	...	...	...	...	...	2	1	3	8	...	...
Gout	2	...	...	...	...	...	...	...	...	1	1	...	...	...
Rickets	41	14	26	...	...	...	...	1	...	...	...	...	...	...
Cancer	321	1	...	...	...	3	1	17	44	89	102	49	15	...
Tabes Mesenterica	128	70	56	1	1	...	...	...	...	...	...	...	...	...
Tuberc: Mening: (Hydroceph:)	185	53	98	21	6	3	...	2	1	1	...	...	...	...
Phthisis	1117	4	31	24	27	86	98	273	293	196	65	17	3	...
Other forms of Tuberc: Scrofula	213	67	88	18	9	8	6	5	6	4	2	...	...	...
Purpura, Hæmorrhagic Diathesis	7	...	2	1	...	...	...	1	1	1	1	...	...	...
Anæmia, Chlorosis, Leucocy:	16	4	1	...	...	1	...	1	1	5	3	...	...	...
Diabetes Mellitus	29	...	1	...	1	2	3	3	5	6	5	3	...	...
Other Constitutional Diseases	2	...	...	...	...	...	1	1	...	...	...	...	...	...
V.—Developmental Diseases.														
Premature Birth	295	295	...	...	...	...	...	...	...	...	...	...	...	...
Atelectasis	7	7	...	...	...	...	...	...	...	...	...	...	...	...
Cyanosis	29	27	2	...	...	...	...	...	...	...	...	...	...	...
Spina Bifida	11	11	...	...	...	...	...	...	...	...	...	...	...	...
Imperforate Anus	2	2	...	...	...	...	...	...	...	...	...	...	...	...
Cleft Palate Harelip	4	4	...	...	...	...	...	...	...	...	...	...	...	...
Other Congenital Defects	16	16	...	...	...	...	...	...	...	...	...	...	...	...
Old Age	301	...	...	...	...	...	...	...	...	1	17	112	130	41
VI.—Local Diseases.														
1. NERVOUS SYSTEM (DIS: OF).														
Inflam: of Brain or its Mem:	204	49	89	32	11	8	1	2	7	1	4	...	...	...
Apoplexy	283	...	...	1	...	...	3	8	27	60	73	81	30	...
Softening of the Brain	43	...	...	...	...	...	...	...	3	7	15	15	3	...
Hemiplegia, Brain Paralysis	122	...	...	1	...	...	2	1	6	16	39	45	11	1
Paralysis Agitans	2	...	...	...	...	...	...	...	...	...	1	1	...	...
Insanity, Gen: Par: of Insane	148	1	...	2	...	3	3	15	26	28	31	31	7	1
Chorea	2	...	...	...	1	...	...	...	...	...	...	1	...	...
Epilepsy	52	...	4	2	1	6	4	13	8	4	5	3	1	1
Convulsions	586	458	120	7	1	...	...	...	...	...	...	...	...	...
Laryngismus Stridulus	9	5	3	1	...	...	...	...	...	...	...	...	...	...
Idiopathic Tetanus	3	2	...	...	...	...	...	1	...	...	...	...	...	...
Paraplegia, Dis: of Spinal Cord	40	1	...	...	1	...	1	6	3	7	11	8	2	...
Other Diseases of Nervous Sys:	83	7	12	2	4	2	3	7	17	9	10	7	3	...
2. ORGANS OF SPECIAL SENSE (DISEASES OF).														
Otitis, Otorrhœa	17	6	4	2	2	1	1	1	...	...	...	...	...	...
Epistaxis and Disease of Nose	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ophthalmia and Disease of Eye	3	2	1	...	...	...	...	...	...	...	...	...	...	...
3. CIRCULATORY SYS: (DIS: OF)														
Endocarditis	9	...	...	1	1	1	1	1	1	1	...	2	...	...
Valvular Disease	158	...	1	3	5	4	8	15	31	37	29	18	7	...
Pericarditis	14	...	2	1	...	2	1	3	2	2	...	1	...	...
Hypertrophy of Heart	6	...	...	...	...	...	...	1	1	2	...	1	1	...
Angina Pectoris	13	...	...	...	...	...	1	...	2	4	3	3	...	...
Syncope	29	2	...	1	...	...	...	...	2	2	5	10	5	2

TABLE B, 1891—*continued.*

CAUSES OF DEATH	AGES AT DEATH													
	All Ages	UNDER 5 YEARS		5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
		0 to 1	1 to 5											
3. CIRCULATORY SYS: (DIS: OF) *(continued.)*														
Aneurism	20	...	...	...	...	...	...	4	8	4	2	2	...	...
Senile Gangrene	15	...	...	...	...	...	...	...	...	3	3	6	3	...
Embolism, Thrombosis	23	...	...	...	...	...	1	4	3	7	4	3	1	...
Phlebitis	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Varicose Veins	1	...	...	...	...	...	...	...	...	...	...	...	1	...
Other Dis: of Circulatory Sys:	674	2	5	4	7	8	11	56	112	138	161	137	30	3
4. RESPIRATORY SYS: (DIS: OF)														
Laryngitis	13	3	10	...	...	...	...	...	...	...	...	...	...	...
Croup	74	8	55	10	1	...	...	...	...	...	...	...	...	...
Other Dis: of Larynx and Trachea	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Emphysema, Asthma	24	...	...	...	...	1	...	1	3	7	8	4	...	...
Bronchitis	1764	408	259	20	3	2	8	30	79	219	323	272	129	12
Pneumonia	1399	309	367	34	16	27	26	87	145	153	122	87	25	1
Pleurisy	50	1	8	3	1	...	2	4	11	7	6	7	...	...
Other Dis: of Resp: System ...	118	41	17	4	...	1	3	4	6	7	11	13	8	3
5. DIGESTIVE SYS: (DIS: OF)														
Stomatitis	8	1	7	...	...	...	...	...	...	...	...	...	...	...
Dentition	5	2	3	...	...	...	...	...	...	...	...	...	...	...
Sore-throat, Quinsy	5	2	2	...	...	...	...	1	...	...	...	...	...	...
Dyspepsia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hæmatemesis	3	2	...	...	...	...	...	...	...	...	1	...	...	...
Melæna	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diseases of Stomach	72	33	5	...	...	3	4	1	6	7	7	4	2	...
Enteritis	121	67	21	6	...	4	1	1	4	6	4	4	3	...
Ulceration of Intestine	5	...	1	...	...	1	1	...	2	...	...	...	...	...
Ileus, Obstruction of Intestine..	33	1	1	3	2	3	4	3	1	3	5	4	3	...
Strict: or Strang: of Intestine...	4	...	...	1	...	...	1	...	...	1	1	...	...	...
Intussusception of Intestine	7	3	1	1	...	...	...	...	1	...	...	...	1	...
Hernia	27	1	1	...	...	...	...	1	2	5	10	6	1	...
Fistula	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Peritonitis	53	4	7	6	4	2	5	6	4	5	7	3	...	...
Ascites	2	1	...	...	...	...	...	1	...	...	...	...	...	...
Gallstones	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cirrhosis of Liver	82	1	...	...	...	...	...	4	21	31	15	8	2	...
Other Diseases of Liver	60	21	...	1	...	1	...	6	9	6	9	5	2	...
Other Dis: of Digestive System	38	16	7	1	...	...	2	...	1	4	5	...	2	...
6. LYMPH: SYS: AND DUCTLESS GLANDS (DIS: OF).														
Diseases of Lymphatic System.	4	1	...	...	1	...	1	1	...	...	...	...	...	...
Diseases of Spleen	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bronchocele	4	...	...	...	...	1	1	...	...	...	...	2	...	...
Addison's Disease	1	...	...	...	...	...	...	1	...	...	...	...	...	...
7. URINARY SYSTEM (DIS: OF)														
Acute Nephritis	47	1	4	1	1	1	2	6	8	7	14	2	...	...
Bright's Disease	195	1	5	1	2	3	3	19	40	51	45	23	2	...
Uræmia	3	1	...	...	...	...	...	1	...	1	...	...	...	...
Suppression of Urine	2	...	1	...	...	...	...	...	1	...	...	...	...	...
Calculus	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hæmaturia	1	...	...	...	...	...	...	...	...	...	...	1	...	...
Dis: of Bladder and Prostate...	26	...	...	1	...	...	...	2	2	3	6	7	4	1
Other Dis: of Urinary System..	7	...	...	...	...	1	...	...	2	...	3	1	...	...
8. REPRODUCTIVE SYSTEM (DISEASES OF).														
(*a*) Generative Organs (Dis: of):														
Ovarian Disease	18	...	...	...	...	...	1	4	4	1	4	4	...	...
Diseases of Uterus and Vagina.	13	...	...	...	...	...	1	1	2	4	1	4	...	...
Disorders of Menstruation	1	..	...	...	1	...	...	...	...	...	...	...	...	...

TABLE B, 1891—*concluded.*

CAUSES OF DEATH	Ages at Death													
	All Ages	Under 5 Years		5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
		0 to 1	1 to 5											
8. REPRODUCTIVE SYSTEM (DIS: OF)—*continued.*														
Pelvic Abscess	3	...	...	...	...	...	...	2	1	...	...	...	...	...
Perineal Abscess	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dis: of Testes, Penis, Scrotum, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(b) Parturition, Diseases of:														
Abortion, Miscarriage	11	...	...	...	...	...	1	8	2	...	...	...	...	...
Puerperal Mania	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Convulsions	8	...	...	...	...	1	2	4	1	...	...	...	...	...
Placenta Prævia, Flooding	15	...	...	...	...	1	2	7	5	...	...	...	...	...
Phlegmasia Dolens	2	...	...	...	...	...	1	1	...	...	...	...	...	...
Other Accidents of Childbirth	33	...	...	...	...	1	7	16	9	...	...	...	...	...
9. LOCOMOTOR SYS: (DIS: OF)														
Caries, Necrosis	52	3	3	11	8	5	3	6	4	6	2	1	...	...
Arthritis, Ostitis, Periostitis	11	...	...	2	1	...	1	...	3	...	...	4	...	...
Other Dis: of Locom: Sys:	3	...	...	1	1	...	...	...	...	...	1	...	...	...
10. INTEGUMENTARY SYSTEM (DISEASES OF).														
Carbuncle	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phlegmon, Cellulitis	8	2	1	...	...	...	...	2	1	1	...	1	...	...
Lupus	3	...	...	...	...	...	...	...	...	1	1	1	...	...
Ulcer, Bedsore	5	...	...	...	...	...	...	...	...	1	...	...	3	1
Eczema	4	3	1	...	...	...	...	...	...	...	...	...	...	...
Pemphigus	3	2	1	...	...	...	...	...	...	...	...	...	...	...
Other Dis: of Integ: Sys:	1	1	...	...	...	...	...	...	...	...	...	...	...	...
VII.—Violence.														
1. ACCIDENT OR NEGLIGENCE.														
Fractures, Contusions	128	3	7	2	2	4	9	16	18	22	20	17	7	1
Gunshot Wounds	1	...	...	...	...	1	...	...	...	...	...	...	...	...
Cut, Stab	2	...	...	...	...	1	...	...	...	1	...	...	...	...
Burns, Scald	51	3	21	8	4	...	2	1	4	2	3	2	1	...
Poison	13	...	2	...	1	2	1	1	1	4	1	...	...	...
Drowning	30	1	2	6	1	3	2	4	3	3	5	...	...	...
Suffocation	136	124	3	1	1	...	...	...	3	1	2	1	...	...
Otherwise	4	1	1	...	...	...	...	...	...	...	1	...	1	...
2. HOMICIDE.														
Murder, Manslaughter	6	2	...	...	...	1	...	1	2	...	...	...	...	...
3. SUICIDE.														
Gunshot Wounds	1	...	...	...	...	...	...	...	...	1	...	...	...	...
Cut, Stab	8	...	...	...	...	...	...	2	2	2	2	...	...	...
Poison	7	...	...	...	...	...	1	1	3	1	1	...	...	...
Drowning	4	...	...	...	...	...	1	...	2	1	...	...	...	...
Hanging	13	...	...	...	...	...	...	1	1	3	4	2	2	...
Otherwise	...	...	...	...	...	...	...	...	...	...	...	...	...	...
VIII.—Ill-defined and not Specified Causes.														
Dropsy	2	...	1	...	...	...	...	...	1	...	...	...	...	...
Debility, Atrophy, Inanition	447	383	43	5	...	...	1	...	1	3	5	1	4	1
Mortification	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Tumour	1	...	...	...	...	...	...	...	...	...	...	1	...	...
Abscess	10	3	1	...	...	...	1	1	...	2	1	...	1	...
Hæmorrhage	5	...	1	...	...	...	...	...	1	1	2	...	...	...
Sudden (cause unascertained)	201	62	25	3	1	3	2	12	13	23	24	25	7	1
Other Ill-def: not spec: causes.	110	44	6	1	...	...	2	3	6	16	14	15	3	...

TABLE B, 1892.—MANCHESTER.

CAUSES OF DEATH AT DIFFERENT LIFE PERIODS IN THE 52 WEEKS OF THE YEAR.

PERSONS.—(MALES AND FEMALES.)

CAUSES OF DEATH	Ages at Death													
	All Ages	Under 5 Years		5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
		0 to 1	1 to 5											
All Causes	11893	3059	1961	357	163	268	288	768	1030	1232	1249	1042	410	66
I. Zymotic Diseases	1864	597	777	114	27	35	41	82	57	43	43	36	11	1
II. Parasitic Diseases	8	8	...	...	...	...	...	...	...	...	...	...	...	...
III. Dietetic Diseases	55	2	...	...	...	...	1	11	19	14	2	6	...	...
IV. Constitutional Dis:	1987	184	231	77	46	113	118	304	337	314	161	82	19	1
V. Developmental Dis:	657	390	2	...	...	...	...	...	...	4	26	95	106	34
VI. Local Diseases	6036	1175	811	138	71	98	117	325	544	766	945	763	257	26
VII. Violence	395	102	53	21	16	20	9	30	42	45	24	24	8	1
VIII. Ill-defined Causes	891	601	87	7	3	2	2	16	31	46	48	36	9	3
I.—Zymotic Diseases.														
1. Miasmatic Diseases.														
(Vaccinated	1	...	...	...	...	...	...	1	...	...	...	...	...	...
Smallpox... Unvaccinated	1	...	1	...	...	...	...	...	...	...	...	...	...	...
(No Statement	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chickenpox	3	...	3	...	...	...	...	...	...	...	...	...	...	...
Measles	369	80	271	18	...	...	...	...	...	...	...	...	...	...
Epidemic Rose Rash	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever	139	3	92	35	6	1	1	...	1	...	...	...	...	...
Typhus	1	...	...	...	...	...	...	...	1	...	...	...	...	...
Relapsing Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	140	8	10	3	1	4	6	12	23	20	27	20	5	1
Whooping Cough	368	145	205	18	...	...	...	...	...	...	...	...	...	...
Mumps	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria	91	8	53	20	3	4	1	1	...	1	...	...	...	...
Membranous Croup	39	4	33	2	...	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Simple and Ill-defined Fever	3	...	2	1	...	...	...	...	...	...	...	...	...	...
Enteric Fever	124	...	7	11	16	22	11	35	13	7	2	...	...	...
Other Miasmatic Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Diarrhœal Diseases.														
Simple Cholera	11	5	2	...	...	...	...	...	...	1	2	1	...	...
Diarrhœa, Dysentery	407	282	90	4	1	...	1	...	3	6	7	7	6	...
3. Malarial Diseases.														
Remittent Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ague	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Zoogenous Diseases.														
Hydrophobia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Glanders	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Splenic Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cowpox; other effects of Vac:	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5. Venereal Diseases.														
Syphilis	51	42	5	...	...	...	...	1	2	...	1	...	...	...
Gonorrhœa, Stricture of Urethra	9	...	...	...	...	...	...	...	2	4	1	2	...	...
6. Septic Diseases.														
Phagedæna	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	32	15	1	2	...	1	1	...	2	3	2	5	...	...
Pyæmia, Septicæmia	7	3	1	...	...	...	...	...	...	1	1	1	...	...
Puerperal Fever	65	...	...	...	...	3	20	32	10	...	...	...	...	...
II.—Parasitic Diseases.														
Thrush	8	8	...	...	...	...	...	...	...	...	...	...	...	...
Other Dis: from Veg: Parasites	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hydatid Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Dis: from Animal Par:	...	...	...	...	...	...	...	...	...	...	...	...	...	...

TABLE B, 1892—*continued.*

CAUSES OF DEATH	Ages at Death													
	All Ages	Under 5 Years 0 to 1	Under 5 Years 1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
III.—Dietetic Diseases.														
Starvation, Want of Breast Milk	3	2	...	...	...	...	...	...	...	...	...	1	...	...
Scurvy	...	...	...	...	...	...	...	..	...	...	...	...	...	...
Intem : Chronic Alcoholism ...	48	...	...	...	...	...	1	8	19	13	2	5	...	...
Intem : Delirium Tremens ...	4	...	...	...	...	...	...	3	...	1	...	...	...	...
IV.—Constitutional Diseases.														
Rheum : Fev : Rheum : of Heart	43	...	1	2	7	7	3	5	7	6	2	3	...	...
Rheumatism	18	...	...	...	...	...	1	1	2	3	3	6	2	...
Gout..................................	7	...	...	...	...	...	...	...	1	4	...	...	2	...
Rickets..	21	7	13	1	...	...	...	...	...	...	...	...	...	...
Cancer	312	...	...	...	...	1	2	12	46	101	87	49	13	1
Tabes Mesenterica...	108	56	43	6	...	2	...	...	1	...	...	...	...	..
Tuberc : Mening : (Hydroceph :)	196	66	89	27	8	4	...	...	1	1	...	...	...	...
Phthisis	1053	1	10	20	18	85	105	279	266	190	64	14	1	...
Other forms of Tuberc : Scrofula	190	51	74	19	13	11	5	5	6	4	...	2	...	...
Purpura, Hæmorrhagic Diathesis	5	2	...	2	...	...	...	...	...	...	...	1	...	...
Anæmia, Chlorosis, Leucocy : ...	17	1	1	...	...	...	1	2	3	3	4	2	...	...
Diabetes Mellitus	17	...	...	...	...	3	1	...	4	2	1	5	1	...
Other Constitutional Diseases ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
V. —Developmental Diseases.														
Premature Birth.....................	338	338	...	...	...	...	...	...	...	...	...	...	...	...
Atelectasis	7	7	...	...	...	...	...	...	...	...	...	...	...	...
Cyanosis	15	14	1	...	...	...	...	...	...	...	...	...	...	...
Spina Bifida	7	7	...	...	...	...	...	...	...	...	...	...	...	...
Imperforate Anus	4	4	...	...	...	...	...	...	...	...	...	...	..	...
Cleft Palate Harelip	8	7	1	...	...	...	...	...	...	...	...	...	...	...
Other Congenital Defects.........	13	13	...	...	...	...	...	...	...	...	...	...	...	...
Old Age	265	...	...	...	...	...	...	...	...	4	26	95	106	34
VI.—Local Diseases.														
1. Nervous System (Dis : of).														
Inflam : of Brain or its Mem : ...	193	56	74	22	10	4	3	9	7	4	3	1	...	...
Apoplexy	263	6	...	...	1	...	3	10	27	39	96	57	22	2
Softening of the Brain	44	...	...	...	...	1	1	2	4	9	9	12	6	...
Hemiplegia, Brain Paralysis......	120	...	...	1	...	...	...	4	11	17	32	39	16	...
Paralysis Agitans	2	...	...	...	...	...	...	...	...	...	...	2	...	...
Insanity, Gen : Par : of Insane	121	...	...	...	1	2	3	12	21	25	26	24	6	1
Chorea	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epilepsy	50	...	...	1	2	6	3	11	9	7	7	4	...	...
Convulsions	338	289	46	2	...	...	...	...	1	...	...	...	...	...
Laryngismus Stridulus	20	7	12	1	...	...	...	...	...	...	...	...	...	...
Idiopathic Tetanus	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Paraplegia, Dis : of Spinal Cord	41	1	1	3	...	...	1	2	4	11	11	6	1	...
Other Diseases of Nervous Sys :	59	5	10	6	...	1	3	5	9	5	8	6	1	...
2. Organs of Special Sense (Diseases of).														
Otitis, Otorrhœa	9	3	2	1	...	1	1	...	1	...	...	...	...	...
Epistaxis and Disease of Nose...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ophthalmia and Disease of Eye	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Circulatory Sys : (Dis : of)														
Endocarditis	11	...	...	...	1	...	1	3	...	5	...	...	1	...
Valvular Disease	147	...	1	2	9	8	7	18	28	28	26	16	4	...
Pericarditis	8	...	...	2	2	...	...	...	1	3	...	...	...	...
Hypertrophy of Heart	3	..	...	...	...	...	...	...	...	1	...	2	...	...
Angina Pectoris	10	...	...	1	...	...	...	...	...	4	2	2	1	...
Syncope	34	1	1	...	2	...	...	3	5	5	6	6	3	2

TABLE B, 1892—*continued.*

CAUSES OF DEATH	Ages at Death													
	All Ages	Under 5 Years		5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
		0 to 1	1 to 5											
3. Circulatory Sys: (Dis: of) *(continued).*														
Aneurism	11	...	...	...	...	...	...	1	2	5	1	1	...	1
Senile Gangrene	20	...	...	...	...	...	...	...	...	1	8	7	4	...
Embolism, Thrombosis	30	1	1	1	...	1	...	2	1	8	7	7	...	1
Phlebitis	1	...	...	...	...	...	...	...	1	...	...	...	...	...
Varicose Veins	2	...	...	...	...	...	...	...	...	...	1	1	...	...
Other Dis: of Circulatory Sys:	668	4	1	5	13	15	15	34	86	148	157	145	41	4
4. Respiratory Sys: (Dis: of)														
Laryngitis	45	9	25	7	...	...	...	1	1	1	1	...	...	...
Croup	25	6	14	5	...	...	...	...	...	...	...	...	...	...
Other Dis: of Larynx and Trachea	...	...	...	...	...	...	...	...	...	..	...	...	...	...
Emphysema, Asthma	31	...	1	...	...	1	...	3	3	9	8	5	1	...
Bronchitis	1400	324	202	9	2	4	9	20	77	151	267	227	98	10
Pneumonia	1162	230	314	36	11	31	27	80	105	125	112	72	16	3
Pleurisy	39	1	1	2	...	1	1	4	8	10	4	5	2	...
Other Dis: of Resp: System	89	31	10	1	...	1	1	4	3	10	11	9	8	...
5 Digestive Sys: (Dis: of).														
Stomatitis	14	7	6	...	...	...	...	...	...	...	1	...	...	...
Dentition	51	23	28	...	...	...	...	...	...	...	...	...	...	...
Sore-throat, Quinsy	5	1	2	1	...	...	...	...	...	1	...	...	...	...
Dyspepsia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hæmatemesis	4	..	...	...	...	...	...	1	...	...	1	1	1	...
Melæna	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diseases of Stomach	64	19	6	2	...	4	2	3	6	2	10	8	2	...
Enteritis	149	97	26	4	...	3	...	2	4	4	5	3	1	...
Ulceration of Intestine	10	1	2	...	1	1	...	1	2	2	...	...	...	...
Ileus, Obstruction of Intestine..	23	2	...	1	1	...	2	1	2	2	4	6	2	...
Strict: or Strang: of Intestine...	2	...	...	...	...	...	...	...	...	1	...	1	...	...
Intussusception of Intestine	5	3	...	...	...	...	...	...	...	...	2	..	...	...
Hernia	25	1	...	...	...	1	...	...	...	6	11	5	1	...
Fistula	2	...	...	..	...	...	...	...	...	2	...	...	...	...
Peritonitis	47	4	4	5	3	3	6	7	3	3	2	6	1	...
Ascites	3	...	1	1	...	...	...	...	...	1	...	...	...	...
Gallstones	3	...	...	...	...	...	...	1	...	...	2	...	...	...
Cirrhosis of Liver	84	...	...	...	...	...	1	3	23	23	24	10	...	...
Other Diseases of Liver	63	14	...	...	...	1	3	2	7	9	11	12	4	...
Other Dis: of Digestive System	32	14	1	1	1	1	...	3	3	2	1	5	...	...
6. Lymph: Sys: and Ductless Glands (Dis: of).														
Diseases of Lymphatic System.	6	1	1	1	1	...	...	...	1	1	...	...	...	...
Diseases of Spleen	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Bronchocele	6	...	1	...	...	1	...	1	...	1	2	...	...	...
Addison's Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	...
7. Urinary System (Dis: of).														
Acute Nephritis	52	3	4	6	1	...	4	5	10	9	6	3	1	...
Bright's Disease	172	...	3	...	1	3	6	16	33	46	38	23	3	...
Uræmia	3	...	...	...	...	...	...	...	.	1	1	1	...	...
Suppression of Urine	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Calculus	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hæmaturia	2	...	...	...	...	...	...	...	...	...	1	1	...	...
Dis: of Bladder and Prostate...	31	...	...	...	1	...	...	1	1	4	6	10	7	1
Other Dis: of Urinary System.,	14	...	...	1	...	...	...	3	2	4	2	1	1	...
8. Reproductive System (Diseases of).														
(*a*) Generative Organs (Dis: of):														
Ovarian Disease...	11	...	...	...	...	...	1	1	1	4	2	2	...	...
Diseases of Uterus and Vagina.	10	...	...	...	...	...	...	2	3	2	2	...	1	...
Disorders of Menstruation	1	...	...	...	...	...	...	...	...	1	...	...	...	...

TABLE B, 1892—*concluded.*

CAUSES OF DEATH	AGES AT DEATH													
	All Ages	UNDER 5 YEARS 0 to 1	UNDER 5 YEARS 1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
8. REPRODUCTIVE SYSTEM (DIS : OF)—*continued.*														
Pelvic Abscess	3	...	...	...	...	...	1	1	1	...	...	...	...	...
Perineal Abscess	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dis : of Testes, Penis, Scrotum, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(b) Parturition, Diseases of :														
Abortion, Miscarriage	10	...	...	...	...	...	1	5	4	...	...	...	...	...
Puerperal Mania	2	...	...	...	...	...	...	2	...	...	...	...	...	...
Puerperal Convulsions	9	...	...	...	...	...	4	4	1	...	...	...	...	...
Placenta Prævia, Flooding	22	...	...	...	...	...	1	9	11	1	...	...	...	...
Phlegmasia Dolens	3	...	...	...	...	...	...	1	2	...	...	...	...	...
Other Accidents of Childbirth...	32	...	...	...	...	2	6	16	8	...	...	...	...	...
9. LOCOMOTOR SYS : (DIS : OF)														
Caries, Necrosis	25	1	5	6	5	1	...	5	...	2	...	...	...	...
Arthritis, Ostitis, Periostitis	12	...	...	1	1	...	...	...	...	...	7	3	...	...
Other Dis : of Locom : Sys : ...	5	...	2	...	...	...	...	1	...	...	...	1	...	1
10. INTEGUMENTARY SYSTEM (DISEASES OF).														
Carbuncle	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phlegmon, Cellulitis	5	2	1	...	1	...	...	...	...	1	...	...	...	...
Lupus	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ulcer, Bedsore	7	...	...	...	...	...	...	...	1	...	1	4	1	...
Eczema	6	5	1	...	...	...	...	...	...	...	...	...	...	...
Pemphigus	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Other Dis : of Integ. Sys :	2	1	...	...	...	...	...	...	...	...	...	1	...	...
VII.—Violence.														
1. ACCIDENT OR NEGLIGENCE.														
Fractures, Contusions	141	5	11	6	6	12	4	17	22	22	15	14	6	1
Gunshot Wounds	1	...	...	...	...	1	...	...	...	...	...	...	...	...
Cut, Stab	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Burns, Scald	61	...	33	7	4	3	...	3	3	2	2	3	1	...
Poison	11	...	...	...	...	1	1	1	3	3	...	2	...	...
Drowning	30	...	2	6	4	...	...	3	4	8	1	2	...	...
Suffocation	99	91	5	1	...	...	...	...	1	1	...	...	...	...
Otherwise	8	4	1	...	1	...	...	...	2	...	...	...	...	...
2. HOMICIDE.														
Murder, Manslaughter	10	2	1	1	...	1	1	1	2	1	...	...	...	...
3. SUICIDE.														
Gunshot Wounds	2	...	...	...	...	...	...	...	...	1	1	...	...	...
Cut, Stab	9	...	...	...	...	...	1	3	4	1	...	...	...	...
Poison	7	...	...	...	...	1	1	1	...	2	2	...	...	...
Drowning	3	...	...	...	1	1	...	...	...	...	1	...	...	...
Hanging	7	...	...	...	...	...	...	...	...	2	1	3	1	...
Otherwise	5	...	...	...	..	...	1	1	1	2	...	...	...	...
VIII.—Ill-defined and not Specified Causes.														
Dropsy	2	1	..	...	...	...	...	...	...	...	...	...	...	1
Debility, Atrophy, Inanition ...	540	467	56	2	...	...	...	...	2	4	7	1	1	..
Mortification	3	2	...	...	...	...	...	...	. .	...	...	...	1	...
Tumour	1	...	...	...	...	...	...	1	...	...	...	...	...	...
Abscess	10	6	1	...	1	...	...	...	1	1	...	...	...	...
Hæmorrhage	5	1	...	...	...	1	1	...	1	...	1	...	...	...
Sudden (cause unascertained) ...	210	78	21	2	1	1	1	12	18	25	25	18	6	2
Other Ill-def : not spec : causes	120	46	9	3	1	...	...	3	9	16	15	17	1	...

TABLE B, 189 —MANCHESTER.

Causes of Death at different Life Periods in the 52 weeks of the Year.

PERSONS.—(MALES AND FEMALES.)

CAUSES OF DEATH	Ages at Death													
	All Ages	Under 5 Years: 0 to 1	Under 5 Years: 1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
All Causes	12559	3479	2030	358	177	232	284	787	1100	1167	1300	1124	455	66
I. Zymotic Diseases	2,310	900	801	109	28	34	45	99	83	61	57	66	25	2
II. Parasitic Diseases	5	3	2	...	...	...	...	...	...	..	...	...	...	...
III. Dietetic Diseases	72	2	...	...	...	...	1	9	24	27	6	3	...	...
IV. Constitutional Dis:	2,039	223	252	73	57	88	104	316	366	268	180	95	14	3
V. Developmental Dis:	655	391	2	...	...	...	...	...	...	3	22	101	109	27
VI. Local Diseases	6,123	1180	829	145	80	100	118	328	550	726	956	800	279	32
VII. Violence	391	101	59	28	11	7	12	25	37	35	33	27	14	2
VIII. Ill-defined Causes	964	679	85	3	1	3	4	10	40	47	46	32	14	...
I.—Zymotic Diseases.														
1. Miasmatic Diseases.														
Smallpox.. Vaccinated	26	1	...	...	...	1	1	7	11	5	...	...	...	...
Smallpox.. Unvaccinated	17	2	3	1	3	1	4	2	...	1	...	...	...	...
Smallpox.. No Statement	6	...	...	1	...	...	...	1	1	2	...	1	...	...
Chickenpox	4	...	3	1	...	...	...	...	...	...	...	...	...	..
Measles	293	73	208	12	...	...	...	...	...	...	...	...	...	...
Epidemic Rose Rash	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever	140	6	87	33	11	...	3	...	...	...	...	...	...	...
Typhus	1	...	...	...	...	...	...	...	...	1	...	...	...	...
Relapsing Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	120	6	8	2	...	5	7	14	14	17	16	21	8	2
Whooping Cough	240	90	138	11	...	...	...	...	...	...	...	1	...	...
Mumps	1	...	...	1	...	...	...	...	...	...	...	...	...	...
Diphtheria	122	11	78	24	3	3	1	2	...	...	...	...	...	...
Membranous Croup	60	4	53	3	...	...	...	...	...	...	...	...	...	...
Cerebro-spinal Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Simple and Ill-defined Fever	3	1	1	1	...	...	...	...	...	...	...	...	...	...
Enteric Fever	127	1	8	10	11	20	14	29	19	9	6	...	...	...
Other Miasmatic Diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Diarrhœal Diseases.														
Simple Cholera	52	24	5	1	...	2	1	2	3	4	6	3	1	...
Diarrhœa, Dysentery	904	613	200	5	...	...	...	4	7	13	17	31	14	...
3. Malarial Diseases.														
Remittent Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ague	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Zoogenous Diseases.														
Hydrophobia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Glanders	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Splenic Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cowpox and other effects of Vac:	5	5	...	...	...	...	...	...	...	...	...	...	...	...
5. Venereal Diseases.														
Syphilis	70	52	8	...	...	...	1	5	2	1	...	1	...	...
Gonorrhœa, Stricture of Urethra	7	...	...	...	...	...	...	...	...	2	3	2	...	...
6. Septic Diseases.														
Phagedæna	1	...	...	...	...	...	...	...	...	...	...	1	...	...
Erysipelas	35	7	...	1	...	...	...	1	6	5	8	5	2	...
Pyæmia, Septicæmia	11	4	...	2	...	...	...	1	2	1	1	...	...	...
Puerperal Fever	64	...	...	...	...	2	13	31	18	...	...	...	...	...
II.—Parasitic Diseases.														
Thrush	4	3	1	...	...	...	...	...	...	...	...	...	...	...
Other Dis: from Veg: Parasites	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hydatid Disease	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Dis: from Animal Par:	1	...	1	...	...	...	...	...	...	...	...	...	...	...

TABLE B, 1893—*continued.*

CAUSES OF DEATH	Ages at Death													
	All Ages	Under 5 Years 0 to 1	Under 5 Years 1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
III.—Dietetic Diseases.														
Starvation, Want of Breast Milk	2	1	...	...	...	...	...	...	1	...	...	...	...	...
Scurvy	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Intem: Chronic Alcoholism	65	1	...	...	...	...	1	6	22	26	6	3	...	...
Intem: Delirium Tremens	5	...	...	...	...	...	...	3	1	1	...	...	...	...
IV.—Constitutional Diseases.														
Rheum: Fev: Rheum: of Heart	40	1	1	7	3	5	3	6	5	5	3	1	...	...
Rheumatism	12	...	...	...	...	...	...	...	...	3	3	6	...	...
Gout	5	...	...	...	...	...	...	1	...	1	1	...	1	1
Rickets	20	7	13	...	...	...	...	...	...	...	...	...	...	...
Cancer	303	...	1	...	2	1	3	16	45	69	94	59	11	2
Tabes Mesenterica	136	72	61	2	1	...	...	...	...	...	...	...	...	...
Tuberc: Mening: (Hydroceph:)	172	60	79	19	7	1	3	3	...	...	...	...	...	...
Phthisis	1,060	7	17	23	28	66	86	271	300	175	65	21	1	...
Other forms of Tuberc: Scrofula	220	71	75	21	15	11	5	9	6	3	2	2	...	...
Purpura, Hæmorrhagic Diathesis	11	2	2	...	...	1	1	2	...	...	3	...	...	...
Anæmia, Chlorosis, Leucocy:	23	3	3	...	1	1	...	3	7	2	2	1	...	...
Diabetes Mellitus	36	...	...	1	...	2	3	5	3	10	6	5	1	...
Other Constitutional Diseases	1	...	...	...	...	...	...	...	...	...	1	...	...	...
V.—Developmental Diseases.														
Premature Birth	312	312	...	...	...	...	...	...	...	...	...	...	...	...
Atelectasis	9	9	...	...	...	...	...	...	...	...	...	...	...	...
Cyanosis	25	23	1	...	...	...	...	...	...	1	...	...	...	...
Spina Bifida	12	11	1	...	...	...	...	...	...	...	...	...	...	...
Imperforate Anus	3	3	...	...	...	...	...	...	...	...	...	...	...	...
Cleft Palate Harelip	2	2	...	...	...	...	...	...	...	...	...	...	...	...
Other Congenital Defects	31	31	...	...	...	...	...	...	...	...	...	...	...	...
Old Age	261	...	...	...	...	...	...	...	...	2	22	101	109	27
VI.—Local Diseases.														
1.—NERVOUS SYSTEM (DIS: OF).														
Inflam: of Brain or its Mem:	203	56	87	18	6	6	2	11	8	3	...	5	1	...
Apoplexy	283	2	2	1	...	2	...	6	25	60	76	83	25	1
Softening of the Brain	36	...	...	...	...	...	...	2	5	5	15	8	1	...
Hemiplegia, Brain Paralysis	137	...	...	1	...	...	2	2	12	12	40	42	22	4
Paralysis Agitans	3	...	...	...	...	...	...	...	...	...	...	3	...	...
Insanity, Gen: Par: of Insane	139	...	...	...	...	1	4	16	24	29	28	26	7	4
Chorea	1	...	...	1	...	...	...	...	...	...	...	...	...	...
Epilepsy	44	2	3	1	1	...	7	11	4	6	6	2	1	...
Convulsions	303	246	53	4	...	...	...	...	...	...	...	...	...	...
Laryngismus Stridulus	17	7	9	...	...	...	...	...	...	1	...	...	...	...
Idiopathic Tetanus	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Paraplegia, Dis: of Spinal Cord	48	1	1	...	1	...	2	4	13	8	10	6	1	1
Other Diseases of Nervous Sys:	83	14	7	4	2	1	3	7	14	8	13	7	3	...
2. ORGANS OF SPECIAL SENSE (DISEASES OF).														
Otitis, Otorrhœa	28	10	8	1	2	4	2	1	...	...	...	...	...	...
Epistaxis and Disease of Nose	1	...	...	...	...	...	...	...	...	1	...	...	...	...
Ophthalmia and Disease of Eye.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. CIRCULATORY SYS: (DIS: OF)														
Endocarditis	16	...	1	...	2	1	1	2	2	2	2	2	1	...
Valvular Disease	154	...	...	6	9	7	11	18	20	24	30	24	5	...
Pericarditis	13	1	3	3	1	1	...	1	...	1	...	1	1	...
Hypertrophy of Heart	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Angina Pectoris	4	...	...	...	...	...	...	1	...	1	2	...	...	...
Syncope	32	5	...	...	...	...	...	2	...	4	5	10	5	1

TABLE B, 1893—*continued.*

CAUSES OF DEATH	Ages at Death													
	All Ages	Under 5 Years												
		0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
3. Circulatory Sys: (Dis: of) *(continued)*														
Aneurism	20	...	...	...	...	...	...	3	4	10	3	...	...	...
Senile Gangrene	19	...	...	...	...	...	...	...	1	...	4	8	5	1
Embolism, Thrombosis	23	2	1	...	...	...	1	...	1	8	1	7	2	...
Phlebitis	3	1	...	...	...	...	...	...	...	1	1	...	...	...
Varicose Veins	2	...	...	...	...	1	...	...	1	...	...	...	...	...
Other Dis: of Circulatory Sys:	573	3	2	5	10	10	10	32	69	127	155	118	30	2
4. Respiratory Sys: (Dis: of)														
Laryngitis	39	10	22	4	...	1	1	...	...	...	1	...	...	...
Croup	17	4	13	...	...	...	...	...	...	...	...	...	...	...
Other Dis: of Larynx and Trachea	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Emphysema, Asthma	14	...	...	...	...	...	...	3	2	2	3	4	...	...
Bronchitis	1,303	288	141	9	7	3	1	12	60	130	283	248	112	9
Pneumonia	1,365	257	381	55	11	31	37	85	155	139	121	71	21	1
Pleurisy	35	1	4	...	2	1	2	6	4	8	2	5	...	...
Other Dis: of Resp: System	92	18	13	...	1	1	1	5	4	9	12	20	5	3
5. Digestive Sys: (Dis: of).														
Stomatitis	20	11	7	2	...	...	...	...	...	...	...	...	...	...
Dentition	5	3	2	...	...	...	...	...	...	...	...	...	...	...
Sore-throat, Quinsy	1	...	...	...	...	...	...	...	...	...	...	1	...	...
Dyspepsia	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hæmatemesis	3	...	...	...	...	...	...	...	1	...	2	...	...	...
Melæna	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diseases of Stomach	78	29	5	4	...	1	5	1	7	10	7	8	...	1
Enteritis	224	131	38	4	6	5	...	3	4	10	10	8	4	1
Ulceration of Intestine	9	1	...	2	1	...	1	1	1	...	...	2	...	...
Ileus, Obstruction of Intestine	26	4	2	1	...	1	2	2	2	2	5	3	2	...
Strict: or Strang: of Intestine	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Intussusception of Intestine	10	6	...	...	...	1	...	...	...	2	...	1	...	...
Hernia	31	2	...	...	1	...	...	...	1	6	7	10	3	1
Fistula	1	...	...	...	...	...	...	...	...	1	...	...	...	...
Peritonitis	40	4	...	5	3	2	2	5	5	4	4	4	2	...
Ascites	7	...	1	...	...	...	...	...	1	3	1	...	1	...
Gallstones	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cirrhosis of Liver	68	...	...	...	...	...	...	4	13	17	25	8	1	...
Other Diseases of Liver	65	26	1	1	1	1	1	3	4	12	5	6	4	...
Other Dis: of Digestive System	31	17	1	...	...	1	...	1	4	1	4	1	1	...
6. Lymph: Sys: and Ductless Glands (Dis: of).														
Diseases of Lymphatic System.	5	2	1	...	...	...	...	...	1	...	1	...	...	...
Diseases of Spleen	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Bronchocele	3	...	...	...	...	...	...	...	1	2	...	...	...	...
Addison's Disease	3	...	...	...	...	...	...	...	1	1	1	...	...	...
7. Urinary System (Dis: of).														
Acute Nephritis	46	4	5	4	2	2	1	1	7	6	10	3	1	...
Bright's Disease	169	1	3	2	2	8	3	23	29	37	42	17	2	...
Uræmia	8	2	...	...	...	...	1	...	2	2	1	...	...	...
Suppression of Urine	1	...	...	...	...	...	...	...	...	...	...	1	...	...
Calculus	4	...	...	...	...	...	...	1	1	...	1	1	...	...
Hæmaturia	3	...	...	...	...	...	...	...	...	...	1	2	...	...
Dis: of Bladder and Prostate	35	2	...	...	1	...	...	1	1	1	8	13	6	2
Other Dis: of Urinary System	6	1	...	...	...	...	...	1	2	1	...	1	...	...
8. Reproductive System (Diseases of).														
(a) Generative Organs (Dis: of):														
Ovarian Disease	17	...	...	...	..	...	1	3	1	5	3	4	...	...
Diseases of Uterus and Vagina.	15	...	...	...	...	...	...	6	6	2	...	...	1	...
Disorders of Menstruation	2	...	...	...	...	...	...	...	2	...	...	...	...	...

TABLE B, 1893—*concluded.*

CAUSES OF DEATH	Ages at Death													
	All Ages	Under 5 Years		5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
		0 to 1	1 to 5											
8. REPRODUCTIVE SYSTEM (DIS: OF)—*continued.*														
Pelvic Abscess	3	...	...	...	...	1	...	...	1	1	...	...	...	...
Perineal Abscess	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dis: of Testes, Penis, Scrotum, &c.	...	...	...	...	...	...	...	...	...	...	...	...	...	...
(b) Parturition, Disease of:														
Abortion, Miscarriage	12	...	...	...	...	...	1	8	3	...	...	...	...	...
Puerperal Mania	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Convulsions	9	...	...	...	...	2	3	4	...	...	...	...	...	...
Placenta Prævia, Flooding	15	...	...	...	...	...	..	8	7	...	...	...	...	...
Phlegmasia Dolens	1	...	...	...	...	...	...	1	...	...	...	...	...	...
Other Accidents of Childbirth	31	...	...	...	...	...	9	14	8	...	...	...	...	...
9. LOCOMOTOR SYS: (DIS: OF).														
Caries, Necrosis	34	...	4	6	8	4	...	5	3	...	1	1	2	...
Arthritis, Ostitis, Periostitis	4	...	3	...	...	...	...	...	...	...	...	1	...	...
Other Dis: of Locom: Sys:	5	...	1	1	...	...	...	1	1	1	...	...	...	...
10. INTEGUMENTARY SYSTEM (DISEASES OF).														
Carbuncle	2	...	...	...	...	...	...	...	...	...	1	...	1	...
Phlegmon, Cellulitis	5	1	...	...	...	...	...	1	1	...	...	2	...	...
Lupus	1	...	...	...	...	...	1	...	...	...	...	...	...	...
Ulcer, Bedsore	3	...	...	...	...	...	...	...	...	...	1	2	...	...
Eczema	5	4	1	...	...	...	...	...	...	...	...	...	...	...
Pemphigus	4	1	2	...	...	...	...	...	1	...	...	...	...	...
Other Dis: of Integ: Sys:	...	...	...	...	...	...	...	...	...	...	...	...	...	...
VII.—Violence.														
1. ACCIDENT OR NEGLIGENCE.														
Fractures, Contusions	138	5	10	4	6	7	8	12	20	16	21	16	11	2
Gunshot Wounds	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cut, Stab	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Burns, Scald	65	3	36	12	1	...	1	...	4	1	4	2	1	...
Poison	10	1	1	1	...	...	...	2	2	3	...	...	...	...
Drowning	38	2	5	9	4	...	...	3	5	4	2	3	1	...
Suffocation	94	87	4	...	...	...	1	1	...	1	...	...	...	...
Otherwise	4	1	...	1	...	...	...	1	...	...	1	...	...	...
2. HOMICIDE.														
Murder, Manslaughter	8	2	3	1	...	...	...	2	...	...	...	...	...	...
3. SUICIDE.														
Gunshot Wounds	1	...	...	...	...	...	...	1	...	...	...	...	...	...
Cut, Stab	7	...	...	...	...	...	1	...	...	4	2	...	...	...
Poison	5	...	...	...	...	...	1	1	2	1	...	...	...	...
Drowning	4	...	...	...	...	...	...	...	1	2	...	1	...	...
Hanging	15	...	...	...	...	...	...	1	3	2	3	5	1	...
Otherwise	2	...	...	...	...	...	...	1	...	1	...	...	...	...
VIII.—Ill-defined and not Specified Causes.														
Dropsy	3	...	...	...	...	1	...	...	...	1	...	...	1	...
Debility, Atrophy, Inanition	652	579	67	...	...	1	...	...	2	...	2	1	...	...
Mortification	3	1	...	...	...	...	...	...	1	...	1	...	...	...
Tumour	4	...	1	...	...	...	...	1	...	1	1	...	...	...
Abscess	10	6	...	...	...	...	...	...	1	...	1	1	1	...
Hæmorrhage	4	...	...	...	...	...	...	1	1	...	1	1	...	...
Sudden (cause unascertained)	206	56	11	2	...	1	3	6	30	40	29	20	8	...
Other Ill-def: not spec: causes.	82	37	6	1	1	...	1	2	5	5	11	9	4	...

TABLE C.

Summary of Tables B, 1891, 1892, and 1893.

	Deaths		
	1891	1892	1893
I.—Specific Febrile, or Zymotic Diseases:			
1. Miasmatic Diseases	1,531	1,281	1,161
2. Diarrhœal ,,	432	418	956
3. Malarial ,,	...	...	...
4. Zoogenous ,,	...	...	5
5. Venereal ,,	67	60	77
6. Septic ,,	92	105	111
II.—Parasitic Diseases	11	8	5
III.—Dietetic Diseases	89	55	72
IV.—Constitutional Diseases	2,123	1,987	2,039
V.—Developmental Diseases	665	657	655
VI.—Local Diseases:			
1. Diseases of Nervous System	1,577	1,252	1,297
2. Diseases of Organs of Special Sense	20	9	29
3. Diseases of Circulatory System	963	945	860
4 Diseases of Respiratory System	3,442	2,791	2,865
5. Diseases of Digestive System	525	586	620
6. Diseases of Lymphatic System and Ductless Glands	9	13	12
7. Diseases of Urinary System	281	274	272
8. Diseases of Reproductive System:			
(*a*) Diseases of Generative Organs	35	25	37
(*b*) Diseases of Parturition	69	78	68
9. Diseases of Locomotor System	66	42	43
10. Diseases of Integumentary System	24	21	20
VII.—Violence:			
1. Accident or Negligence	365	352	349
2. Homicide	6	10	8
3. Suicide	33	33	34
VIII.—Ill-defined and not Specified Causes	777	891	964
Total	13,202	11,893	12,559

TABLE D, 1891.—MANCHESTER.

CAUSES OF DEATHS AT DIFFERENT LIFE PERIODS.—MALES.

Classes	CAUSES OF DEATH	All Ages	AGES AT DEATH—IN YEARS												
			UNDER 5 YEARS												
			0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
	All Causes	6814	1795	1143	177	81	132	169	450	668	735	679	570	196	19
I.	Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Measles	112	22	86	4	...	...	...	...	...	...	...	...	...	...
	Scarlet Fever	64	2	47	12	3	...	...	...	...	...	...	...	...	...
	Typhus Fever	1	...	...	...	...	...	...	...	...	1	...	...	...	...
	Whooping Cough	221	85	129	6	1	...	...	...	...	...	...	...	...	...
	Diphtheria	60	3	40	10	...	2	3	1	...	1	...	...	...	...
	Membranous Croup	2	1	1	...	...	...	...	...	...	...	...	...	...	...
	Ill-defined Fever	2	...	1	...	1	...	...	...	...	...	...	...	...	...
	Enteric Fever	111	...	6	8	8	16	20	15	23	12	3	...	...	...
	Influenza	178	9	7	3	1	8	5	19	36	35	18	24	13	...
	Simple Cholera	15	7	6	...	...	...	1	...	...	1	...	...	...	...
	Diarrhœa, Dysentery	213	151	49	1	1	...	...	1	...	3	3	2	1	1
	Venereal Affections	36	20	3	...	...	...	...	2	2	5	1	1	2	...
	Erysipelas	16	6	1	...	...	...	...	...	1	4	1	3	...	...
	Pyæmia	2	...	2	...	...	...	...	...	...	...	...	...	...	...
	Other Zymotics	...	...	...	...	...	...	...	...	...	...	...	...	...	...
II.	Parasitic Diseases	6	6	...	...	...	...	...	...	...	...	...	...	...	...
III.	Dietetic Diseases, Intemperance	58	6	...	...	...	...	1	14	18	11	5	3	...	...
IV.	Rheumatic Fever	26	1	...	2	3	1	2	8	5	3	1	...	...	...
	Rickets	27	12	15	...	...	...	...	...	...	...	...	...	...	...
	Cancer	119	...	...	...	...	2	1	6	17	29	30	27	7	...
	Tabes Mesenterica	66	35	30	...	1	...	...	...	...	...	...	...	...	...
	Hydrocephalus	106	26	64	8	3	1	...	2	1	1	...	...	...	...
	Phthisis	665	3	17	13	10	38	57	158	185	128	41	14	1	...
	Scrofula, Tuberculosis	120	36	46	12	4	6	5	3	2	4	2	...	...	...
	Constitutional Diseases (other)	33	2	2	...	1	1	...	2	5	9	7	4	...	...
V.	Premature Birth	170	170	...	...	...	...	...	...	...	...	...	...	...	...
	Malform. Develop. Dis. (other)	46	45	1	...	...	...	...	...	...	...	...	...	...	...
	Old Age	110	...	...	...	...	...	...	...	...	...	6	47	45	12
VI.	Apoplexy, Hemiplegia	184	...	...	1	...	...	2	5	16	31	46	67	15	1
	Epilepsy	21	...	3	1	...	3	2	3	4	2	2	1	...	...
	Convulsions	314	248	62	4	...	...	...	...	...	...	...	...	...	...
	Brain and Nervous Dis. (other)	278	33	48	21	8	5	4	14	28	34	40	33	9	1
	Heart Diseases	452	3	5	5	5	6	11	47	74	90	97	90	19	...
	Croup	36	5	26	4	1	...	...	...	...	...	...	...	...	...
	Bronchitis	822	213	121	11	1	1	5	18	41	105	150	111	43	2
	Pneumonia	837	191	198	15	11	19	15	58	97	97	75	49	12	...
	Respiratory Diseases (other)	107	18	19	3	...	2	2	5	15	11	14	12	5	1
	Digestive System (Diseases of)	274	87	33	7	4	8	10	11	23	30	33	22	6	...
	Urinary System (Diseases of)	182	2	6	2	2	3	4	19	33	37	45	23	5	1
	Reproductive System (Dis. of)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Local Diseases (other)	66	14	6	8	7	2	4	9	5	4	2	4	1	...
VII.	Violence	241	68	21	12	5	6	11	19	23	29	29	13	5	...
VIII.	Marasmus, Atrophy	239	209	25	2	...	...	...	...	...	1	1	...	1	...
	Other Ill-defined Causes	176	56	17	2	...	2	4	11	14	17	27	20	6	...

TABLE D1, 1891.—MANCHESTER.

Causes of Deaths at different Life Periods.—FEMALES.

Classes	CAUSES OF DEATH	All Ages	Ages at Death—in years												
			Under 5 Years												
			0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
	All Causes	6388	1504	1082	199	87	126	154	396	539	647	695	598	307	54
I.	Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Measles	108	20	80	7	...	...	1	...	...	...	...	...	...	...
	Scarlet Fever	50	1	28	18	2	...	...	...	1	...	...	...	...	...
	Typhus Fever	6	...	...	...	...	1	1	3	...	1	...	...	...	...
	Whooping Cough	297	109	175	13	...	...	...	...	...	...	...	...	...	...
	Diphtheria	62	4	34	18	2	1	...	1	2	...	...	...	...	...
	Membranous Croup	4	1	3	...	...	...	...	...	...	...	...	...	...	...
	Ill-defined Fever	4	1	1	1	...	...	...	...	...	...	1	...	...	...
	Enteric Fever	78	2	4	6	13	11	8	17	11	2	2	1	1	...
	Influenza	169	7	6	1	2	1	5	13	22	31	36	27	17	1
	Simple Cholera	7	2	3	...	...	...	...	...	...	1	...	1	...	...
	Diarrhœa, Dysentery	197	118	54	4	1	...	...	1	4	1	6	6	2	...
	Venereal Affections	31	21	6	...	...	...	1	3	...	...	...	...	...	...
	Erysipelas	14	6	2	...	...	...	...	1	1	1	...	2	...	1
	Pyæmia	6	2	...	1	...	...	2	...	...	...	1	...	...	...
	Puerperal Fever	53	...	...	...	...	4	15	23	11	...	...	...	...	...
	Other Zymotics	3	...	2	1	...	...	...	...	...	...	...	...	...	...
II.	Parasitic Diseases	5	4	1	...	...	...	...	...	...	...	...	...	...	...
III.	Dietetic Diseases, Intemperance	31	4	...	...	...	...	...	2	14	5	4	2	...	...
IV.	Rheumatic Fever	22	1	1	2	...	1	3	6	3	4	...	...	1	...
	Rickets	14	2	11	...	...	...	...	1	...	...	...	...	...	...
	Cancer	202	1	...	...	...	1	...	11	27	60	72	22	8	...
	Tabes Mesenterica	62	35	26	1	...	...	...	...	...	...	...	...	...	...
	Hydrocephalus	79	27	34	13	3	2	...	...	...	...	...	...	...	...
	Phthisis	452	1	14	11	17	48	41	115	108	68	24	3	2	...
	Scrofula, Tuberculosis	93	31	42	6	5	2	1	2	4	...	...	...	...	...
	Constitutional Diseases (other)	37	2	2	1	...	2	4	4	4	5	6	7	...	...
V.	Premature Birth	125	125	...	...	...	...	...	...	...	...	...	...	...	...
	Malform. Develop. Dis. (other)	23	22	1	...	...	...	...	...	...	...	...	...	...	...
	Old Age	191	...	...	...	...	...	...	...	...	1	11	65	85	29
VI.	Apoplexy, Hemiplegia	221	...	...	1	...	...	3	4	17	45	66	59	26	...
	Epilepsy	31	...	1	1	1	3	2	10	4	2	3	2	1	1
	Convulsions	272	210	58	3	1	...	...	...	...	...	...	...	...	...
	Brain and Nervous Dis. (other)	256	32	56	16	9	8	4	17	28	18	32	30	6	...
	Heart Diseases	511	1	3	5	8	9	12	37	88	110	111	93	29	5
	Croup	38	3	29	6	...	...	...	...	...	...	...	...	...	...
	Bronchitis	942	195	138	9	2	1	3	12	38	114	173	161	86	10
	Pneumonia	562	118	169	19	5	8	11	29	48	56	47	38	13	1
	Respiratory Diseases (other)	98	27	16	4	1	...	3	4	5	10	11	12	3	2
	Digestive System (Diseases of)	251	68	23	12	2	6	8	13	28	38	31	12	10	...
	Urinary System (Diseases of)	99	1	4	1	1	2	1	9	20	25	23	11	1	...
	Reproductive System (Dis. of)	104	...	...	...	1	3	15	43	24	5	5	8	...	...
	Local Diseases (other)	53	6	5	8	6	5	3	2	3	5	2	5	2	1
VII.	Violence	163	66	15	5	4	6	5	8	16	12	10	9	6	1
VIII.	Marasmus, Atrophy	208	174	18	3	...	...	1	...	1	2	4	1	3	1
	Other Ill-defined Causes	154	54	17	2	1	1	1	5	7	25	14	21	5	1

TABLE D, 1892.—MANCHESTER.

Causes of Deaths at different Life Periods.—MALES.

Classes	CAUSES OF DEATH	All Ages	Ages at Death—in years												
			Under 5 Years												
			0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
	All Causes	6153	1703	995	196	85	144	117	387	562	672	595	491	179	27
I.	Smallpox	1	...	...	...	...	...	...	1	...	...	...	...	...	...
	Measles	183	45	130	8	...	...	...	...	...	...	...	...	...	...
	Scarlet Fever	73	3	46	18	4	1	1	...	...	...	...	...	...	...
	Typhus Fever	1	...	...	...	...	...	...	...	1	...	...	...	...	...
	Whooping Cough	171	74	87	10	...	...	...	...	...	...	...	...	...	...
	Diphtheria	43	2	29	8	1	1	...	1	...	1	...	...	...	...
	Membranous Croup	23	4	17	2	...	...	...	...	...	...	...	...	...	...
	Ill-defined Fever	1	...	1	...	...	...	...	...	...	...	...	...	...	...
	Enteric Fever	68	...	2	3	9	15	6	22	8	2	1	...	...	...
	Influenza	59	6	2	1	...	2	3	4	11	7	12	7	3	1
	Simple Cholera	7	4	2	...	...	...	...	...	...	...	1	...	...	...
	Diarrhœa, Dysentery	202	145	50	1	1	...	...	...	1	1	3	...	...	...
	Venereal Affections	37	24	2	...	...	...	...	1	3	4	1	2	...	...
	Erysipelas	15	5	1	2	...	...	1	...	1	1	2	2	...	...
	Pyæmia	3	1	...	...	...	...	...	...	...	...	1	1	...	...
	Other Zymotics	6	2	4	...	...	...	..	...	...	...	...	...	...	...
II.	Parasitic Diseases	5	5	...	...	...	...	...	...	...	...	...	...	...	...
III.	Dietetic Diseases, Intemperance	31	2	...	...	...	...	1	4	11	10	1	2	...	...
IV.	Rheumatic Fever	16	...	...	2	2	4	...	3	3	1	1	...	...	...
	Rickets	9	2	7	...	...	...	...	...	...	...	...	...	...	...
	Cancer	105	...	...	...	...	1	1	3	13	32	33	19	3	...
	Tabes Mesenterica	70	37	26	5	...	1	...	...	1	...	...	...	...	...
	Hydrocephalus	116	36	56	16	4	2	...	...	1	1	...	...	...	...
	Phthisis	641	...	3	9	6	45	51	154	180	134	46	12	1	...
	Scrofula, Tuberculosis	95	30	36	9	7	4	4	1	1	2	...	1	..	...
	Constitutional Diseases (other)	39	2	1	2	...	3	1	...	7	9	4	6	4	...
V.	Premature Birth	182	182	...	...	...	...	...	...	...	...	...	...	..	...
	Malform. Develop. Dis. (other)	37	35	2	...	...	...	...	...	...	...	...	...	...	...
	Old Age	103	...	...	...	...	...	...	...	...	1	5	37	47	13
VI.	Apoplexy, Hemiplegia	169	4	...	1	...	...	2	5	17	22	60	40	17	1
	Epilepsy	32	...	...	1	1	2	3	8	7	3	4	3	...	...
	Convulsions	177	155	21	1	...	...	...	...	...	...	...	...	...	...
	Brain and Nervous Dis. (other)	268	40	57	21	4	5	4	18	25	25	30	30	9	...
	Heart Diseases	417	6	1	6	13	10	2	31	52	96	100	77	21	2
	Croup	15	3	9	3	...	...	...	...	...	...	...	...	...	...
	Bronchitis	695	186	111	4	1	1	7	8	37	77	105	113	40	5
	Pneumonia	670	138	151	21	7	21	16	56	68	83	56	43	8	2
	Respiratory Diseases (other)	115	24	19	5	...	1	...	5	11	23	17	8	2	...
	Digestive System (Diseases of)	312	122	36	8	5	7	3	14	20	31	32	28	6	...
	Urinary System (Diseases of)	174	1	3	5	3	2	4	15	33	38	40	20	9	1
	Reproductive System (Dis. of)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Local Diseases (other)	50	9	8	5	6	2	...	6	...	4	5	5	...	...
VII.	Violence	256	57	27	17	9	13	6	21	31	35	16	17	6	1
VIII.	Marasmus, Atrophy	283	247	32	...	...	...	...	...	1	2	1	...	...	...
	Other Ill-defined Causes	178	65	16	2	2	1	1	6	18	27	18	18	3	1

TABLE D1, 1892.—MANCHESTER.

CAUSES OF DEATHS AT DIFFERENT LIFE PERIODS.—FEMALES.

Classes	CAUSES OF DEATH	All Ages	Ages at Death—in years Under 5 Years											
			0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
	All Causes	5740	1356	966	161	78	124	171	381	468	560	654	551	231	39
I.	Smallpox	1	...	1	...	...	...	...	...	...	...	...	...	...	...
	Measles	186	35	141	10	...	...	...	...	...	...	...	...	...	...
	Scarlet Fever	66	...	46	17	2	...	...	...	1	...	...	...	...	...
	Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Whooping Cough	197	71	118	8	..	...	...	...	...	...	...	...	...	...
	Diphtheria	48	6	24	12	2	3	1	...	...	...	...	...	...	...
	Membranous Croup	16	...	16	...	...	...	...	...	...	...	...	...	...	...
	Ill-defined Fever	2	...	1	1	...	...	...	...	...	...	...	...	...	...
	Enteric Fever	56	...	5	8	7	7	5	13	5	5	1	...	...	...
	Influenza	81	2	8	2	1	2	3	8	12	13	15	13	2	...
	Simple Cholera	4	1	...	...	...	...	...	...	...	1	1	1	...	...
	Diarrhœa, Dysentery	205	137	40	3	...	...	1	...	2	5	4	7	6	...
	Venereal Affections	23	18	3	...	...	...	...	...	1	...	1	...	...	...
	Erysipelas	17	10	...	...	...	1	..	...	1	2	...	3	...	...
	Pyæmia	4	2	1	...	...	...	...	...	...	1	...	...	...	...
	Puerperal Fever	65	...	...	...	...	3	20	32	10	...	...	...	...	...
	Other Zymotics	...	...	...	...	...	...	...	...	...	...	...	...	...	...
II.	Parasitic Diseases	3	3	...	...	...	...	...	...	...	...	...	...	...	...
III.	Dietetic Diseases, Intemperance	24	...	...	...	...	...	...	7	8	4	1	4	...	...
IV.	Rheumatic Fever	27	...	1	...	5	3	3	2	4	5	1	3	...	...
	Rickets	12	5	6	1	...	...	...	...	...	...	...	...	...	...
	Cancer	207	...	...	...	...	...	1	9	33	69	54	30	10	1
	Tabes Mesenterica	38	19	17	1	...	1	...	...	...	...	...	...	...	...
	Hydrocephalus	80	30	33	11	4	2	...	...	...	...	...	...	...	...
	Phthisis	412	1	7	11	12	40	54	125	86	56	18	2	...	...
	Scrofula, Tuberculosis	95	21	38	10	6	7	1	4	5	2	...	1	...	...
	Constitutional Diseases (other)	25	1	...	...	...	...	2	3	3	3	4	8	1	...
V.	Premature Birth	156	156	...	...	...	...	...	..	...	...	...	...	...	...
	Malform. Develop. Dis. (other)	17	17	...	...	...	...	...	...	...	...	...	...	...	...
	Old Age	162	...	...	...	...	...	...	...	...	3	21	58	59	21
VI.	Apoplexy, Hemiplegia	214	2	...	...	1	...	1	9	21	34	68	56	21	1
	Epilepsy	18	...	...	...	1	4	...	3	2	4	3	1	...	...
	Convulsions	161	134	25	1	...	...	..	...	1	...	...	...	...	...
	Brain and Nervous Dis. (other)	213	30	40	11	7	3	7	12	20	29	27	21	5	1
	Heart Diseases	528	...	3	5	14	14	21	30	72	112	108	110	33	6
	Croup	10	3	5	2	...	...	...	...	..	...	...	...	...	...
	Bronchitis	705	138	91	5	1	3	2	12	40	74	162	114	58	5
	Pneumonia	492	92	163	15	4	10	11	24	37	42	56	29	8	1
	Respiratory Diseases (other)	89	17	18	5	...	2	2	7	4	7	7	11	9	...
	Digestive System (Diseases of)	274	64	40	7	1	7	11	10	30	27	42	29	6	...
	Urinary System (Diseases of)	100	2	4	2	...	1	6	10	13	26	14	19	3	...
	Reproductive System (Dis. of)	103	...	...	...	...	2	14	41	31	8	4	2	1	...
	Local Diseases (other)	35	5	6	4	2	1	1	1	3	1	5	4	1	1
VII.	Violence	139	45	26	4	7	7	3	9	11	10	8	7	2	...
VIII.	Marasmus, Atrophy	257	220	24	2	...	...	...	...	1	2	6	1	1	...
	Other Ill-defined Causes	173	69	15	3	1	1	1	10	11	15	23	17	5	2

TABLE D, 1893.—MANCHESTER.

Causes of Deaths at different Life Periods—MALES.

Classes	CAUSES OF DEATH	All Ages Total	Ages at Death—in years												
			Under 5 Years												
			0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
	All Causes	6501	1958	1027	170	95	123	147	393	625	659	606	495	176	27
I.	Smallpox	35	1	3	...	1	2	4	7	9	7	...	1	...	...
	Measles	169	44	121	4	...	...	...	...	...	...	...	...	...	...
	Scarlet Fever	56	2	36	11	6	...	1	...	...	...	...	...	...	...
	Typhus Fever	1	...	...	...	...	...	...	...	...	1	...	...	...	...
	Whooping Cough	100	46	52	2	...	...	...	...	...	...	...	...	...	...
	Diphtheria	67	7	43	14	2	1	...	...	...	...	...	...	...	...
	Membranous Croup	28	3	22	3	...	...	...	...	...	...	...	...	...	...
	Ill-defined Fever	2	1	...	1	...	...	...	...	...	...	...	...	...	...
	Enteric Fever	70	...	6	6	5	8	9	15	12	6	3	...	...	...
	Influenza	68	3	6	...	...	4	4	7	8	13	6	13	2	2
	Simple Cholera	25	13	3	1	...	1	...	1	...	1	3	1	1	...
	Diarrhœa, Dysentery	504	348	108	2	...	...	...	2	5	10	8	17	4	...
	Venereal Affections	47	33	3	...	...	...	...	2	1	2	3	3	...	...
	Erysipelas	17	3	...	1	...	...	...	1	3	3	4	2	...	...
	Pyæmia	7	2	...	2	...	...	...	...	2	...	1	...	...	...
	Other Zymotics	6	3	1	2	...	...	...	...	...	...	...	...	...	...
II.	Parasitic Diseases	1	1	...	...	...	...	...	...	...	...	...	...	...	...
III.	Dietetic Diseases, Intemperance	37	1	...	...	...	...	...	8	11	13	3	1	...	...
IV.	Rheumatic Fever	17	1	...	3	...	2	2	3	4	1	1	...	...	...
	Rickets	9	2	7	...	...	...	...	...	...	...	...	...	...	...
	Cancer	121	...	1	...	2	1	3	4	13	27	36	29	4	1
	Tabes Mesenterica	66	31	32	2	1	...	...	...	...	...	...	...	...	...
	Hydrocephalus	90	32	44	8	4	...	1	1	...	...	...	...	...	...
	Phthisis	657	4	9	12	14	34	55	158	199	115	44	12	1	...
	Scrofula, Tuberculosis	127	47	38	9	9	6	4	5	4	2	1	2	...	...
	Constitutional Diseases (other)	36	3	...	...	...	1	1	2	7	10	4	5	2	1
V.	Premature Birth	186	186	...	...	...	...	...	...	...	...	...	...	...	...
	Malform. Develop. Dis. (other)	55	55	...	...	...	...	...	...	...	...	...	...	...	...
	Old Age	97	...		...	...	...	...	...	...	2	3	41	43	8
VI.	Apoplexy, Hemiplegia	185	1	...	...	...	1	1	4	15	36	52	54	18	3
	Epilepsy	25	2	3	...	...	...	2	6	1	6	4	...	1	...
	Convulsions	156	134	19	3	...	...	...	...	...	...	...	...	...	...
	Brain and Nervous Dis. (other)	289	51	58	11	5	5	6	16	35	29	35	30	3	5
	Heart Diseases	409	7	3	6	11	13	9	26	50	91	99	74	20	...
	Croup	12	3	9	...	..	...	...	...	...	...	...	...	...	...
	Bronchitis	601	171	69	3	3	3	1	7	30	59	113	96	42	4
	Pneumonia	778	145	191	27	6	18	23	53	112	99	63	31	9	1
	Respiratory Diseases (other)	87	14	18	1	1	1	2	10	7	12	9	9	2	1
	Digestive Organs (Diseases of)	286	116	31	10	8	6	6	10	18	33	29	15	4	...
	Urinary Organs (Diseases of)	166	6	4	1	2	4	3	15	26	30	43	25	6	1
	Reproductive Organs (Dis. of)	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Local Diseases (other)	45	6	11	4	4	4	1	4	6	1	1	2	1	...
VII.	Violence	242	48	35	20	10	6	9	18	26	24	21	17	8	...
VIII.	Marasmus, Atrophy	360	326	32	...	...	1	...	...	...	...	1	...	...	...
	Other Ill-defined Causes	159	56	9	1	1	1	...	8	21	26	16	15	5	...

TABLE D1, 1893.—MANCHESTER.

CAUSES OF DEATHS AT DIFFERENT LIFE PERIODS—FEMALES.

Classes	CAUSES OF DEATH	All Ages Total	Ages at Death—in years Under 5 Years 0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards
	All Causes	6058	1521	1003	188	82	109	137	394	475	508	694	629	279	39
I.	Smallpox	14	2	...	2	2	...	1	3	3	1	...	...	...	...
	Measles	124	29	87	8	...	...	...	...	...	...	...	...	...	...
	Scarlet Fever	84	4	51	22	5	...	2	...	...	...	...	...	...	...
	Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Whooping Cough	140	44	86	9	...	...	...	...	...	...	...	1	...	...
	Diphtheria	55	4	35	10	1	2	1	2	...	...	...	...	...	...
	Membranous Croup	32	1	31	...	...	...	...	...	...	...	...	...	...	...
	Ill-defined Fever	1	...	1	...	...	...	...	...	...	...	...	...	...	...
	Enteric Fever	57	1	2	4	6	12	5	14	7	3	3	...	...	...
	Influenza	52	3	2	2	...	1	3	7	6	4	10	8	6	...
	Simple Cholera	27	11	2	...	...	1	1	1	3	3	3	2	...	...
	Diarrhœa, Dysentery	400	265	92	3	...	...	...	2	2	3	9	14	10	...
	Venereal Affections	30	19	5	...	...	...	1	3	1	1	...	...	...	...
	Erysipelas	18	4	...	...	...	...	...	...	3	2	4	3	2	...
	Pyæmia	4	2	...	...	...	...	...	1	...	1	...	...	...	...
	Puerperal Fever	64	...	...	...	...	2	13	31	18	...	...	...	...	...
	Other Zymotics	6	2	3	...	...	...	...	...	...	...	...	1	...	...
II.	Parasitic Diseases	4	2	2	...	...	...	...	...	...	...	...	...	...	...
III.	Dietetic Diseases, Intemperance	35	1	...	...	...	...	1	1	13	14	3	2	...	...
IV.	Rheumatic Fever	23	...	1	4	3	3	1	3	1	4	2	1	...	...
	Rickets	11	5	6	...	...	...	...	...	...	...	...	...	...	...
	Cancer	182	...	...	...	...	...	...	12	32	42	58	30	7	1
	Tabes Mesenterica	70	41	29	...	...	...	...	...	...	...	...	...	...	...
	Hydrocephalus	82	28	35	11	3	1	2	2	...	...	...	...	...	...
	Phthisis	403	3	8	11	14	32	31	113	101	60	21	9	...	...
	Scrofula, Tuberculosis	93	24	37	12	6	5	1	4	2	1	1	...	...	...
	Constitutional Diseases (other)	52	2	5	1	1	3	3	9	3	6	12	7	...	...
V.	Premature Birth	126	126	...	...	...	...	...	...	...	...	...	...	...	...
	Malform. Develop. Dis. (other)	27	24	2	...	...	...	...	...	...	1	...	...	...	...
	Old Age	164	...	...	...	...	...	...	...	...	...	19	60	66	19
VI.	Apoplexy, Hemiplegia	235	1	2	2	...	1	1	4	22	36	64	71	29	2
	Epilepsy	19	...	...	1	1	...	5	5	3	...	2	2	...	...
	Convulsions	147	112	34	1	...	...	...	...	...	...	...	...	...	...
	Brain and Nervous Dis. (other)	241	27	46	12	4	3	5	24	29	25	31	25	10	...
	Heart Diseases	451	5	4	8	11	7	14	33	48	87	105	96	29	4
	Croup	5	1	4	...	...	...	...	...	...	...	...	...	...	...
	Bronchitis	702	117	72	6	4	...	...	5	30	71	170	152	70	5
	Pneumonia	587	112	190	28	5	13	14	32	43	40	58	40	12	...
	Respiratory Diseases (other)	93	15	21	3	2	2	2	4	3	7	9	20	3	2
	Digestive Organs (Diseases of)	334	118	26	9	4	6	5	10	25	35	42	37	14	3
	Urinary Organs (Diseases of)	106	4	4	5	3	6	2	12	16	17	20	13	3	1
	Reproductive Organs (Dis. of)	105	...	...	...	...	3	14	44	28	8	3	4	1	...
	Local Diseases (other)	59	12	10	4	6	4	2	4	3	4	4	4	2	...
VII.	Violence	149	53	24	8	1	1	3	7	11	11	12	10	6	2
VIII.	Marasmus, Atrophy	292	253	35	...	...	...	...	...	2	...	1	1	...	...
	Other Ill-defined Causes	153	44	9	2	...	1	4	2	17	21	28	16	9	...

TABLE E, 1891.—CITY OF MANCHESTER.—CAUSES OF DEATHS IN INFANCY AND CHILDHOOD.

CAUSES OF DEATH	UNDER ONE YEAR			Total under One Year	ONE AND UNDER FIVE YEARS				Total under Five Years
	Under 3 months	3 to 6 months	6 to 12 months		1-	2-	3-	4-	
All Causes	1,461	717	1,121	3,299	1,275	466	289	195	5,524
Measles	...	2	40	42	98	41	16	11	208
Scarlatina	1	...	2	3	14	24	24	13	78
Whooping Cough	27	40	127	194	168	72	43	21	498
Diphtheria	...	...	7	7	32	11	11	20	81
Membranous Croup	...	1	1	2	...	1	...	3	6
Fever (various forms)	...	1	2	3	3	3	5	1	15
Diarrhœa	75	87	107	269	82	13	4	4	372
Syphilis	25	9	7	41	8	1	...	...	50
Hydrocephalus	4	22	27	53	44	27	21	6	151
Tuberculosis (other forms)	20	58	63	141	86	39	24	26	316
Premature Birth	294	1	...	295	...	...	...	...	295
Convulsions	256	91	111	458	90	21	4	5	578
Brain Diseases (other)	7	19	39	65	59	21	18	10	173
Lung Diseases	187	186	397	770	439	144	87	46	1,486
Teething	...	...	2	2	3	...	...	...	5
Atrophy, Marasmus	249	73	61	383	32	8	2	1	426
Found Dead in Bed	73	34	8	115	2	1	1	...	119
Suffocation	27	5	1	33	...	1	...	...	34
Violence (other forms)	6	...	4	10	6	7	9	11	43
Ill-defined Causes	40	19	27	86	23	2	5	2	118
Unclassified	170	69	88	327	86	29	15	15	472

TABLE E, 1892.—CITY OF MANCHESTER.—CAUSES OF DEATHS IN INFANCY AND CHILDHOOD.

CAUSES OF DEATH	UNDER ONE YEAR			Total under One Year	ONE AND UNDER FIVE YEARS				Total under Five Years
	Under 3 months	3-6 months	6-12 months		1-	2-	3-	4-	
All Causes..................	1,429	625	1,005	3,059	1,096	418	277	170	5,020
Measles	3	8	69	80	153	57	46	15	351
Scarlatina	1	...	2	3	18	20	30	24	95
Whooping Cough	22	24	99	145	100	51	35	19	350
Diphtheria.....................	...	...	8	8	13	17	16	7	61
Membranous Croup	...	...	4	4	14	8	6	5	37
Fever (various forms)	...	...	...	...	1	2	1	5	9
Diarrhœa	81	90	111	282	75	13	2	...	372
Syphilis	23	11	8	42	5	...	...	...	47
Hydrocephalus	5	18	43	66	44	22	14	9	155
Tuberculosis (other forms)	21	32	55	108	74	29	12	12	235
Premature Birth	338	...	...	338	...	...	...	...	338
Convulsions	193	46	50	289	33	9	4	...	335
Brain Diseases (other)	11	24	41	76	52	23	16	6	173
Lung Diseases	136	156	309	601	359	113	57	38	1,168
Teething	...	2	21	23	26	2	...	...	51
Atrophy, Marasmus	290	101	76	467	37	12	5	2	523
Found Dead in Bed.........	71	34	9	114	5	...	...	...	119
Suffocation	8	2	...	10	1	1	1	...	13
Violence (other forms)......	7	3	1	11	11	8	18	11	59
Ill-defined Causes............	61	18	22	101	18	6	2	2	129
Unclassified	158	56	77	291	57	25	12	15	400

TABLE E, 1893.—CITY OF MANCHESTER.—CAUSES OF DEATHS IN INFANCY AND CHILDHOOD.

CAUSES OF DEATH	UNDER ONE YEAR			Total under One Year	ONE AND UNDER FIVE YEARS				Total under Five Years
	Under 3 months	3–6 months	6–12 months		1–	2–	3–	4–	
All Causes	**1526**	**788**	**1165**	**3479**	**1154**	**447**	**244**	**185**	**5509**
Measles	...	4	69	73	124	50	20	14	281
Scarlatina	...	1	5	6	14	27	24	22	93
Whooping Cough	10	20	60	90	69	37	24	8	228
Diphtheria	...	2	9	11	19	20	21	18	89
Membranous Croup	...	...	4	4	17	10	21	5	57
Fever (various forms)	...	...	2	2	2	...	4	3	11
Diarrhœa	192	193	228	613	180	10	6	4	813
Syphilis	26	17	9	52	7	1	...	...	60
Hydrocephalus	4	13	43	60	37	25	7	10	139
Tuberculosis (other forms)	35	43	72	150	92	33	12	16	303
Premature Birth	307	5	...	312	...	...	...	...	312
Convulsions	137	43	66	246	42	6	4	1	299
Brain Diseases (other)	16	23	43	82	49	33	13	14	191
Lung Diseases	131	133	314	578	352	131	57	34	1152
Teething	...	1	2	3	2	...	...	...	5
Atrophy, Marasmus	349	135	95	579	51	11	3	2	646
Found Dead in Bed	54	28	13	95	4	1	...	1	101
Suffocation	13	4	2	19	1	...	...	...	20
Violence (other forms)	5	2	7	14	16	19	12	8	69
Ill-defined Causes	36	18	19	73	9	2	...	4	88
Unclassified	211	103	103	417	67	31	16	21	552

TABLE F, 1881-90.

Mean Death Rates,* 1881-90, per 1,000 living, in Groups of Ages, in "Manchester City," "Manchester Township," and "Manchester Outlying Townships."

Age-groups	Males			Females		
	Manchester City	Manchester Township	Outlying Townships	Manchester City	Manchester Township	Outlying Townships
0—	83·96	103·67	76·84	70·79	88·34	64·35
5—	7·62	8·33	7·37	7·40	7·81	7·25
10—	3·71	4·46	3·44	3·69	4·29	3·47
15—	5·45	7·37	4·73	4·91	6·36	4·41
20—	6·95	9·64	5·97	6·11	8·09	5·43
25—	11·03	17·21	8·73	9·50	13·51	8·14
35—	19·55	29·23	15·69	15·45	21·47	13·20
45—	31·14	44·58	25·50	24·31	35·10	20·07
55—	54·40	73·91	46·38	45·62	59·40	40·23
65—	102·65	116·31	96·55	87·91	101·01	82·86
75—	182·23	203·59	174·22	159·77	151·93	162·46
85 and up	307·13	254·75	331·56	258·33	235·81	265·24
All ages ...	26·07	34·39	22·93	22·58	29·11	20·23

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* In calculating the rates for "Manchester Township" and for "Manchester Outlying Townships," the inmates of institutions have been distributed as accurately as possible to the localities to which they belonged.

TABLE G, 1871 TO 1893.—MANCHESTER.—ESTIMATED POPULATIONS. ANNUAL RATES OF MARRIAGES, BIRTHS, AND DEATHS (*a*) from all causes, and (*b*) from specified causes; also the percentages to total deaths of Inquest Cases, and of Deaths in Public Institutions.

YEARS	Estimated Populations	ANNUAL RATES PER 1,000 PERSONS LIVING														PERCENTAGES TO TOTAL DEATHS		YEARS
		Persons Married	Births	Deaths (All Causes)	Smallpox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Typhus Fever	Enteric Fever	Simple Continued Fever	Diarrhœa and Dysentery	English Cholera	Violence	Inquest Cases	Deaths in Public Institutions	
	(Mean)																	
Quinquennial Averages 1871–75	477,344	24·6	38·9	28·3	0·26	0·64	1·08	0·08	0·78	0·14	0·43	0·21	1·92	0·03	0·94	7·2	13·4	1871–75 Quinquennial Averages
1876–80	509,802	18·6	38·7	26·2	0·24	0·53	1·07	0·13	0·84	0·08	0·29	0·11	1·22	0·04	0·89	7·5	14·3	1876–80
1881–85	542,746	17·9	35·1	23·6	0·04	0·71	0·48	0·10	0·68	0·05	0·20	0·03	0·96	0·03	0·72	7·0	15·9	1881–85
1886–90	575,630	16·6	33·4	24·6	0·02	0·83	0·50	0·32	0·54	0·02	0·30	0·01	1·06	0·02	0·78	6·9	17·7	1886–90
Avge. 20 yrs. 1871–90	526,380	19·4	36·5	25·7	0·14	0·68	0·78	0·16	0·71	0·07	0·30	0·09	1·29	0·03	0·83	7·1	15·3	1871–90 Avge. 20 yrs.
1871	464,866	24·2	38·1	29·3	0·72	0·84	0·71	0·04	0·61	0·20	0·45	0·35	2·58	0·02	0·90	6·3	13·7	1871
1872	471,023	25·8	39·3	27·3	0·32	0·33	1·02	0·09	1·22	0·17	0·40	0·17	2·07	0·04	0·90	6·9	13·5	1872
1873*	477,261	24·8	38·3	28·0	0·08	0·85	1·43	0·05	0·38	0·15	0·46	0·20	1·92	0·05	0·83	7·3	12·8	1873*
1874	483,582	23·8	39·3	28·7	0·05	0·62	1·33	0·07	0·83	0·08	0·39	0·19	1·71	0·01	0·94	7·3	13·5	1874
1875	489,987	24·2	39·5	28·4	0·11	0·54	0·92	0·14	0·88	0·11	0·44	0·12	1·32	0·01	1·12	8·4	13·3	1875
1876	496,476	20·2	40·0	28·0	0·80	0·65	1·13	0·10	0·81	0·16	0·42	0·17	1·50	0·02	1·05	7·4	14·4	1876
1877	503,051	19·8	39·5	26·1	0·36	0·59	1·05	0·13	0·84	0·11	0·29	0·12	0·82	0·01	0·86	7·9	14·9	1877
1878	509,714	18·8	39·7	26·8	0·01	0·45	1·07	0·14	0·68	0·06	0·31	0·10	1·42	0·07	0·91	7·6	14·4	1878
1879*	516,464	16·8	37·3	25·2	0·00	0·35	1·07	0·13	1·09	0·02	0·18	0·07	0·62	0·01	0·81	7·3	14·2	1879*
1880	523,304	17·2	36·9	25·0	0·01	0·63	1·03	0·14	0·76	0·04	0·26	0·07	1·73	0·09	0·80	7·1	13·7	1880
1881	530,051	17·8	35·9	22·8	0·03	0·29	0·34	0·09	0·71	0·03	0·17	0·06	0·73	0·02	0·84	8·1	15·9	1881
1882	536,324	18·8	35·7	24·0	0·05	0·89	0·34	0·11	0·87	0·10	0·25	0·04	1·00	0·03	0·67	7·2	14·5	1882
1883	542,671	17·8	34·9	24·4	0·01	0·71	0·81	0·11	0·62	0·05	0·20	0·03	0·95	0·03	0·73	7·0	15·5	1883
1884*	549,093	18·0	34·4	23·4	0·01	0·57	0·74	0·08	0·49	0·03	0·19	0·03	1·46	0·05	0·65	6·2	17·3	1884*
1885	555,591	17·0	34·8	23·6	0·08	1·08	0·17	0·10	0·71	0·04	0·17	0·01	0·64	0·02	0·69	6·4	16·4	1885
1886	562,166	16·4	34·7	24·1	0·00	0·27	0·41	0·15	0·57	0·03	0·29	0·01	1·34	0·04	0·71	7·2	17·0	1886
1887	568,819	16·6	33·9	25·4	0·01	1·54	0·63	0·23	0·50	0·02	0·31	0·01	1·19	0·02	0·77	6·9	16·1	1887
1888	575,550	16·0	33·3	23·3	0·07	0·27	0·42	0·36	0·79	0·02	0·33	0·02	0·71	0·01	0·74	6·7	18·3	1888
1889	582,362	17·0	33·1	24·2	0·00	1·22	0·45	0·51	0·45	0·01	0·31	0·01	1·00	0·03	0·89	6·5	18·2	1889
1890*	589,253	17·0	31·8	26·2	...	0·83	0·60	0·36	0·37	0·01	0·27	0·02	1·04	0·02	0·79	7·0	19·1	1890*
1891†	‡ 508,673	17·2	33·8	26·0	...	0·43	0·22	0·25	1·02	0·01	0·37	0·01	0·81	0·04	0·79	6·8	18·4	1891†
1892†	‡ 513,196	17·2	33·4	23·2	0·00	0·72	0·27	0·25	0·72	0·00	0·24	0·01	0·79	0·02	0·77	7·4	18·2	1892†
1893†	‡ 517,760	16·0	33·4	24·3	0·09	0·57	0·27	0·35	0·46	0·00	0·25	0·01	1·75	0·10	0·76	6·9	18·7	1893†

* The facts for these years are for 53 instead of 52 weeks; corrections have, therefore, been made in calculating the rates.

† The populations and rates for the years subsequent to 1890, except the marriage rates, relate to the City of Manchester as enlarged by the Act of that year. The facts and rates for previous years are those for the three Unions of Manchester, Chorlton, and Prestwich, which have been taken to approximately represent "Manchester."

‡ These figures include a proportion of the inmates of certain Extra-municipal Institutions which receive patients from the City of Manchester, and are therefore in excess of the estimates of the Registrar General.

TABLE H, 1881 TO 1893.—MANCHESTER.

ANNUAL RATES OF MORTALITY FROM CERTAIN CAUSES OF DEATH.

	Year	Annual Rates per 1,000 Persons living										Rates per 1,000 Births	
		Cancer	Tabes Mesenterica	Phthisis	Other Tuber: Diseases	Diseases of Nervous System	Diseases of Circulatory System	Diseases of Respiratory System	Diseases of Digestive System	Diseases of Urinary System	Diseases of Generative System	Puerperal Fever	Childbirth
Quinquennial Periods	1881–85	0·50	0·35	2·42	0·57	3·28	1·37	5·41	1·23	0·48	0·08	3·03	1·99
	1886–90	0·64	0·36	2·24	0·59	3·09	1·73	5·76	1·23	0·61	0·08	3·22	2·13
Average 10 years	1881–90	0·57	0·36	2·33	0·58	3·19	1·55	5·58	1·23	0·54	0·08	3·13	2·08
	1881	0·48	0·28	2·46	0·52	3·33	1·19	5·57	1·24	0·39	0·07	3·15	1·37
	1882	0·44	0·40	2·41	0·61	3·35	1·34	5·33	1·19	0·45	0·08	3·92	1·62
	1883	0·54	0·34	2·54	0·59	3·32	1·33	5·66	1·20	0·50	0·06	2·27	1·58
	1884*	0·51	0·39	2·34	0·56	3·27	1·44	4·88	1·23	0·59	0·10	2·81	2·55
	1885	0·51	0·36	2·34	0·56	3·12	1·53	5·59	1·28	0·49	0·08	3·05	2·84
	1886	0·56	0·43	2·44	0·59	3·30	1·53	5·43	1·26	0·57	0·08	2·67	1·85
	1887	0·62	0·39	2·19	0·53	3·17	1·66	5·72	1·23	0·53	0·08	3·58	1·35
	1888	0·65	0·31	2·14	0·62	3·19	1·72	5·31	1·16	0·62	0·10	4·12	1·77
	1889	0·70	0·36	2·12	0·59	2·94	1·79	5·06	1·28	0·64	0·08	3·06	1·87
	1890*	0·65	0·33	2·33	0·62	2·87	1·93	7·28	1·22	0·66	0·08	2·68	3·89
	1891†	0·63	0·25	2·20	0·78	3·10	1·89	6·77	1·03	0·55	0·07	3·08	4·01
	1892†	0·61	0·21	2·05	0·75	2·44	1·84	5·44	1·14	0·53	0·05	3·79	4·54
	1893†	0·59	0·26	2·05	0·76	2·51	1·66	5·53	1·20	0·53	0·07	3·70	3·94

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* The facts for these years are for 53 instead of 52 weeks; corrections have therefore been made in calculating the rates.

† The rates of mortality for the years subsequent to 1890 refer to the City of Manchester as enlarged by the Act of that year. The rates for 1890 and for previous years are those for the three Unions of Manchester, Chorlton, and Prestwich, which have been taken to approximately represent "Manchester."

TABLE J, 1891.—Population, Area, Density. Total Births and Deaths, with Birth and Death Rates.

[Institution Populations, Births and Deaths, distributed.]

STATISTICAL AREAS	Estimated Population	Area in Acres	Persons to an Acre	BIRTHS		DEATHS	
				Total	Rate per 1,000	Total	Rate per 1,000
City of Manchester	**508,673**	**12,788**	**40**	**17,208**	**33·83**	**13,202**	**25·95**
I. Manchester Township...	148,512	1,646	90	5,159	34·74	4,756	32·03
II. North Manchester	125,288	7,191	17	4,317	34·46	2,709	21·62
III. South Manchester	234,873	3,951	59	7,732	32·92	5,737	24·43
(townships)							
I. Ancoats	47,205	400	118	1,805	38·24	1,613	34·17
Central	38,443	748	51	1,101	28·64	1,217	31·66
St. George's	62,864	498	126	2,253	35·84	1,926	30·64
II. Cheetham	28,852	919	31	953	33·03	502	17·40
Crumpsall	7,618	733	10	226	29·67	149	19·56
Blackley	7,210	1,840	4	216	29·96	172	23·86
Harpurhey	8,595	193	45	312	36·30	175	20·36
Moston	5,224	1,297	4	145	27·76	89	17·04
Newton Heath	34,226	1,350	25	1,118	32·67	760	22·21
Bradford	20,318	288	71	793	39·03	540	26·58
Beswick	9,851	96	103	437	44·36	252	25·58
Clayton	3,394	475	7	117	34·47	70	20·62
III. Ardwick	35,353	509	69	1,271	35·95	926	26·19
Openshaw	24,534	581	42	858	34·97	557	22·70
Gorton (West)	25,048	342	73	950	37·93	574	22·92
Rusholme and Kirk. ...	17,490	1,396	13	435	24·87	298	17·04
Chorlton-upon-Medlock	59,788	646	93	1,658	27·73	1,365	22·83
Hulme	72,660	477	152	2,560	35·23	2,017	27·76

TABLE J, 1892.—Population, Area, Density. Total Births and Deaths, with Birth and Death Rates.

[Institution Populations, Births and Deaths, distributed.]

	STATISTICAL AREAS	Estimated Population	Area in Acres	Persons to an Acre	BIRTHS		DEATHS	
					Total	Rate per 1,000	Total	Rate per 1,000
	City of Manchester	**513,196**	**12,788**	**40**	**17,162**	**33·44**	**11,893**	**23·17**
I.	Manchester Township..	148,065	1,646	90	5,155	34·82	4,441	29·99
II.	North Manchester	127,946	7,191	18	4,331	33·85	2,401	18·77
III.	South Manchester	237,185	3,951	60	7,676	32·36	5,051	21·30
	(townships)							
I.	Ancoats	46,969	400	117	1,752	37·30	1,422	30·28
	Central	38,071	748	51	1,105	29·02	1,178	30·94
	St. George's	63,025	498	126	2,298	36·46	1,841	29·21
II.	Cheetham	29,212	919	32	896	30·67	440	15·06
	Crumpsall	7,914	733	11	222	28·05	123	15·54
	Blackley	7,343	1,840	4	220	29·96	130	17·70
	Harpurhey	9,075	193	47	312	34·38	172	18·95
	Moston	5,432	1,297	4	151	27·80	81	14·91
	Newton Heath	34,696	1,350	26	1,197	34·50	749	21·59
	Bradford	20,733	288	72	802	38·68	427	20·60
	Beswick	10,035	96	105	425	42·35	220	21·92
	Clayton	3,506	475	7	106	30·23	59	16·83
III.	Ardwick	35,711	509	70	1,186	33·21	732	20·50
	Openshaw	25,531	581	44	947	37·09	519	20·33
	Gorton (West)	25,478	342	74	935	36·70	522	20·49
	Rusholme and Kirk. ...	17,814	1,396	13	438	24·59	268	15·04
	Chorlton-upon-Medlock	60,106	646	93	1,624	27·02	1,249	20·78
	Hulme	72,545	477	152	2,546	35·09	1,761	24·27

TABLE J, 1893.—Population, Area, Density. Total Births and Deaths, with Birth and Death Rates.

[Institution Populations, Births and Deaths, distributed.]

STATISTICAL AREAS	Estimated Population	Area in Acres	Persons to an Acre	BIRTHS		DEATHS	
				Total	Rate per 1,000	Total	Rate per 1,000
City of Manchester	**517,760**	**12,788**	**40**	**17,275**	**33·36**	**12,559**	**24·26**
I. Manchester Township..	147,606	1,646	90	5,220	35·36	4,462	30·23
II. North Manchester	130,652	7,191	18	4,212	32·24	2,583	19·77
III. South Manchester	239,502	3,951	61	7,843	32·75	5,514	23·02
(TOWNSHIPS)							
I. Ancoats	46,729	400	117	1,782	38·13	1,536	32·87
Central	37,698	748	50	1,173	31·11	1,069	28·36
St. George's..............	63,179	498	127	2,265	35·85	1,857	29·39
II. Cheetham	29,569	919	32	937	31·69	447	15·12
Crumpsall	8,221	733	11	188	22·87	118	14·35
Blackley	7,476	1,840	4	213	28·49	170	22·74
Harpurhey	9,579	193	50	299	31·21	205	21·40
Moston	5,646	1,297	4	132	23·38	84	14·88
Newton Heath	35,165	1,350	26	1,174	33·39	737	20·96
Bradford	21,154	288	73	749	35·41	498	23·54
Beswick	10,221	96	106	408	39·92	232	22·70
Clayton	3,621	475	8	112	30·93	92	25·41
III. Ardwick	36,065	509	71	1,316	36·49	818	22·68
Openshaw	26,568	581	46	881	33·16	616	23·19
Gorton (West)............	25,910	342	76	985	38·02	619	23·89
Rusholme and Kirk. ...	18,133	1,396	14	438	24·15	303	16·71
Chorlton-upon-Medlock	60,413	646	94	1,684	27·87	1,304	21·58
Hulme.....................	72,413	477	152	2,539	35·06	1,854	25·60

TABLE K, 1891.

BIRTHS REGISTERED IN THE CITY OF MANCHESTER, IN ITS MAIN DIVISIONS, AND IN TOWNSHIPS; DISTINGUISHING LEGITIMATE AND ILLEGITIMATE BIRTHS: ALSO THE PROPORTION OF MORTALITY AMONG INFANTS OF BOTH CLASSES UNDER ONE YEAR OF AGE.

	STATISTICAL AREAS	BIRTHS		Percentage of Illegitimate Births to Total Births	DEATHS UNDER 1 YEAR		PROPORTION OF DEATHS UNDER 1 YEAR PER 1,000 BIRTHS		
		Total	Illegitimate		Total	Of Illegitimate Children	Total	Legitimate	Illegitimate
	City of Manchester......	**17,208**	**728**	**4·23**	**3,299**	**273**	**192**	**184**	**375**
	(DIVISIONS)								
I.	Manchester Township..	5,159	261	5·06	1,195	94	232	225	360
II.	North Manchester ...	4,317	103	2·39	709	39	164	159	379
III.	South Manchester......	7,732	364	4·71	1,395	140	180	170	385
	(TOWNSHIPS)								
I.	Ancoats	1,805	62	3·44	448	25	248	243	403
	Central...	1,101	98	8·90	265	26	241	238	265
	St. George's	2,253	101	4·48	482	43	214	204	426
I.	Cheetham..............	953	27	2·83	109	3	114	114	111
	Crumpsall	226	10	4·42	31	3	137	130	300
	Blackley	216	3	1·39	33	2	153	146	667
	Harpurhey	312	10	3·21	39	1	125	126	100
	Moston	145	2	1·38	13	...	90	91	...
	Newton Heath.........	1,118	22	1·97	190	10	170	164	455
	Bradford	793	18	2·27	184	10	232	225	556
	Beswick	437	6	1·37	87	6	199	188	1,000
	Clayton	117	5	4·27	23	4	197	170	800
III.	Ardwick	1,271	40	3·15	231	19	182	172	475
	Openshaw..............	858	17	1·98	156	5	182	180	294
	Gorton (West)	950	37	3·89	166	14	175	166	378
	Rusholme and Kirk...	435	12	2·76	75	7	172	161	583
	Chorlton-on-Medlock.	1,658	118	7·12	282	44	170	155	373
	Hulme	2,560	140	5·47	485	51	189	179	364

TABLE K, 1892.

Births Registered in the City of Manchester, in its Main Divisions, and in Townships; Distinguishing Legitimate and Illegitimate Births: also the Proportion of Mortality among Infants of both Classes under One Year of Age.

STATISTICAL AREAS	BIRTHS		Percentage of Illegitimate Births to Total Births	Deaths under 1 Year		Proportion of Deaths under 1 Year Per 1,000 Births		
	Total	Illegitimate		Total	Of Illegitimate Children	Total	Legitimate	Illegitimate
City of Manchester	**17,162**	**703**	**4·10**	**3,059**	**258**	**178**	**170**	**367**
(DIVISIONS)								
I. Manchester Township	5,155	251	4·87	1,086	99	211	201	394
II. North Manchester	4,331	91	2·10	660	37	152	147	407
III. South Manchester	7,676	361	4·70	1,313	122	171	163	338
(TOWNSHIPS)								
I. Ancoats	1,752	70	4·00	339	27	194	186	386
Central	1,105	78	7·06	254	32	230	216	411
St. George's	2,298	103	4·48	493	40	214	206	388
II. Cheetham	896	15	1·67	101	4	113	110	267
Crumpsall	222	11	4·95	27	5	122	104	455
Blackley	220	6	2·73	30	1	136	136	167
Harpurhey	312	7	2·24	54	4	173	164	571
Moston	151	1	0·66	23	...	152	...	...
Newton Heath	1,197	27	2·26	206	12	172	166	444
Bradford	802	18	2·25	129	10	161	152	556
Beswick	425	4	0·94	72	1	169	169	250
Clayton	106	2	1·89	18	...	170	...	...
III. Ardwick	1,186	43	3·63	201	16	169	162	372
Openshaw	947	21	2·22	149	4	157	157	190
Gorton (West)	935	33	3·53	162	12	173	166	364
Rusholme and Kirk...	438	13	2·97	66	7	151	139	538
Chorlton-on-Medlock	1,624	148	9·11	304	39	187	180	264
Hulme	2,546	103	4·04	431	44	169	158	428

TABLE K, 1893.

BIRTHS REGISTERED IN THE CITY OF MANCHESTER, IN ITS MAIN DIVISIONS, AND IN TOWNSHIPS; DISTINGUISHING LEGITIMATE AND ILLEGITIMATE BIRTHS: ALSO THE PROPORTION OF MORTALITY AMONG INFANTS OF BOTH CLASSES UNDER ONE YEAR OF AGE.

STATISTICAL AREAS		BIRTHS		Percentage of Illegitimate Births to Total Births	DEATHS UNDER 1 YEAR		PROPORTION OF DEATHS UNDER 1 YEAR PER 1,000 BIRTHS		
		Total	Illegitimate		Total	Of Illegitimate Children	Total	Legitimate	Illegitimate
	City of Manchester......	**17,275**	**642**	**3·72**	**3,479**	**320**	**201**	**190**	**498**
	(DIVISIONS)								
I.	Manchester Township	5,220	258	4·94	1,161	118	222	210	457
II.	North Manchester... ..	4,212	96	2·28	741	33	176	172	344
III.	South Manchester	7,843	288	3·67	1,577	169	201	186	587
	(TOWNSHIPS)								
I.	Ancoats	1,782	49	2·75	405	34	227	214	694
	Central	1,173	119	10·15	260	27	222	221	227
	St. George's	2,265	90	3·98	496	57	219	202	634
II.	Cheetham	937	16	1·71	111	6	118	114	375
	Crumpsall	188	4	2·13	39	2	208	201	500
	Blackley...............	213	4	1·88	29	1	136	134	250
	Harpurhey............	299	14	4 68	60	1	201	207	71
	Moston	132	1	0·76	20	2	152	137	...
	Newton Heath	1,174	26	2·22	213	4	181	182	154
	Bradford	749	25	3·34	163	12	218	209	480
	Beswick	408	6	1·47	71	4	174	167	667
	Clayton	112	...	...	35	1	313	304	...
III.	Ardwick	1,316	44	3·34	284	25	216	204	568
	Openshaw	881	25	2·84	205	14	233	223	560
	Gorton (West)	985	39	3·96	208	18	211	201	461
	Rusholme and Kirk.	438	13	2·97	88	5	201	195	385
	Chorlton-on-Medlock	1,684	149	8·85	291	39	173	164	262
	Hulme	2,539	124	4·88	501	68	197	179	549

TABLE L, 1891–92–93.—City of Manchester. Annual Rates of Mortality per 1,000 Persons living at all ages, in the City of Manchester and in its Statistical Areas, from certain Diseases and groups of Diseases.

Causes of Death	City of Manchester			Manchester Township		
	1891	1892	1893	1891	1892	1893
All Causes	25·95	23·17	24·26	32·02	29·99	30·23
Smallpox	...	0·00	0·09	...	0·01	0·18
Measles	0·43	0·72	0·57	0·68	1·32	0·86
Scarlet Fever	0·22	0·27	0·27	0·22	0·35	0·23
Typhus Fever	0·01	0·00	...	0·03	...	0·01
Whooping Cough	1·02	0·72	0·46	1·24	0·86	0·64
Diphtheria, Membranous Croup	0·25	0·25	0·35	0·26	0·32	0·30
Ill-defined Fever	0·01	0·01	0·01	...	0·01	0·01
Enteric Fever	0·37	0·24	0·25	0·40	0·24	0·18
Influenza	0·68	0·27	0·23	0·71	0·31	0·13
Diarrhœa, Dysentery	0·81	0·79	1·75	1·08	1·08	2·22
Erysipelas	0·06	0·06	0·07	0·08	0·04	0·08
Pyæmia	0·02	0·01	0·02	0·03	0·03	0·03
Puerperal Fever	0·10	0·13	0·12	0·11	0·13	0·16
Rheumatic Fever	0·09	0·08	0·08	0·05	0·08	0·09
Rickets	0·08	0·04	0·04	0·15	0·03	0·03
Cancer	0·63	0·61	0·59	0·65	0·72	0·68
Tabes Mesenterica	0·25	0·21	0·26	0·26	0·21	0·26
Hydrocephalus	0·36	0·38	0·33	0·36	0·43	0·36
Phthisis	2·20	2·05	2·05	3·04	3·05	2·97
Scrofula, Tuberculosis	0·42	0·37	0·42	0·35	0·47	0·43
Premature Birth	0·58	0·66	0·60	0·65	0·74	0·60
Old Age	0·59	0·52	0·50	0·47	0·53	0·61
Brain and Nervous Diseases	3·10	2·44	2·51	3·42	2·68	2·79
Heart Diseases	1·89	1·84	1·66	2·26	2·47	2·15
Bronchitis	3·47	2·73	2·52	4·57	3·53	3·50
Pneumonia	2·75	2·26	2·64	3·72	3·32	3·62
Respiratory Diseases (other)	0·55	0·45	0·38	0·67	0·59	0·33
Digestive Organs (Diseases of)	1·03	1·14	1·20	1·20	1·32	1·29
Urinary Organs (Diseases of)	0·55	0·53	0·53	0·75	0·72	0·74

TABLE L—*continued.*

Causes of Death	North Manchester			South Manchester		
	1891	1892	1893	1891	1892	1893
All Causes	21·62	18·77	19·77	24·43	21·30	23·02
Smallpox	...	0·01	0·14	...	...	0·02
Measles	0·44	0·44	0·63	0·27	0·49	0·35
Scarlet Fever	0·22	0·39	0·39	0·23	0·16	0·23
Typhus Fever	0·02	0·01	...	0·00	...	...
Whooping Cough	0·72	0·60	0·28	1·04	0·69	0·45
Diphtheria, Membranous Croup	0·40	0·30	0·38	0·17	0·18	0·37
Ill-defined Fever	0·02	...	0·01	0·01	0·01	...
Enteric Fever	0·29	0·25	0·27	0·40	0·24	0·27
Influenza	0·69	0·27	0·28	0·66	0·25	0·27
Diarrhœa, Dysentery	0·70	0·68	1·49	0·69	0·67	1·59
Erysipelas	0·06	0·05	0·05	0·04	0·08	0·07
Pyæmia	0·02	0·01	0·02	0·01	0·00	0·02
Puerperal Fever	0·10	0·17	0·10	0·10	0·10	0·12
Rheumatic Fever	0·10	0·10	0·05	0·12	0·08	0·09
Rickets	0·06	0·02	0·04	0·05	0·06	0·04
Cancer	0·49	0·49	0·39	0·70	0·61	0·63
Tabes Mesenterica	0·19	0·20	0·19	0·28	0·22	0·30
Hydrocephalus	0·30	0·23	0·20	0·40	0·43	0·39
Phthisis	1·52	1·19	1·20	2·02	1·90	1·94
Scrofula, Tuberculosis	0·22	0·20	0·34	0·57	0·40	0·46
Premature Birth	0·51	0·56	0·64	0·57	0·66	0·58
Old Age	0·81	0·59	0·43	0·55	0·47	0·48
Brain and Nervous Diseases	2·71	2·23	2·17	3·11	2·40	2·51
Heart Diseases	1·36	1·36	1·32	1·95	1·71	1·54
Bronchitis	2·54	2·14	1·75	3·27	2·55	2·33
Pneumonia	2·47	1·74	2·18	2·29	1·89	2·28
Respiratory Diseases (other)	0·50	0·38	0·39	0·49	0·40	0·41
Digestive Organs (Diseases of)	1·00	1·08	1·13	0·95	1·07	1·18
Urinary Organs (Diseases of)	0·31	0·34	0·34	0·56	0·52	0·50

TABLE M, 1891, 1892, AND 1893.—CITY OF MANCHESTER.

ANNUAL RATES OF MORTALITY AT SIX GROUPS OF AGES,* PER 1,000 LIVING AT THOSE AGE-GROUPS, FROM CERTAIN PREVALENT DISEASES AND GROUPS OF DISEASES.

CAUSES OF DEATH	Under 5 Years*			5 to 15 Years			15 to 25 Years		
	1891	1892	1893	1891	1892	1893	1891	1892	1893
All Causes	86·64	78·03	84·87	4·79	4·54	4·63	5·65	5·36	4·93
Smallpox	...	0·02	0·09	...	...	0·04	...	...	0·07
Measles	3·26	5·46	4·33	0·10	0·16	0·10	0·01	...	...
Scarlatina	1·22	1·48	1·43	0·31	0·36	0·38	...	0·02	0·03
Diphtheria, Memb. Croup	1·36	1·52	2·25	0·26	0·22	0·26	0·06	0·05	0·04
Whooping Cough	7·81	5·44	3·51	0·18	0·16	0·10	...	...	...
Typhus	...	...	...	...	...	...	0·02	...	...
Fever...... Enteric	0·19	0·11	0·14	0·31	0·24	0·18	0·54	0·32	0·32
Continued	0·05	0·03	0·03	0·02	0·01	0·01	...	...	...
Diarrhœal Diseases	6·12	5·89	12·97	0·06	0·04	0·05	0·01	0·01	0·03
Tubercular Diseases	7·32	6·06	6·81	0·94	0·97	1·00	1·96	2·04	1·64
Brain	11·78	7·90	7·55	0·59	0·44	0·35	0·35	0·30	0·29
Heart	0·19	0·16	0·29	0·20	0·33	0·31	0·37	0·45	0·41
Diseases of Lungs	23·31	18·15	17·75	0·81	0·64	0·77	0·68	0·73	0·76
Digestive System	3·31	4·07	4·48	0·22	0·18	0·27	0·31	0·27	0·22
Urinary System	0·20	0·16	0·28	0·05	0·09	0·10	0·10	0·13	0·14
Other Diseases	20·52	21·58	22·95	0·74	0·70	0·71	1·24	1·04	0·98

CAUSES OF DEATH	25 to 45 Years			45 to 65 Years			Over 65 Years		
	1891	1892	1893	1891	1892	1893	1891	1892	1893
All Causes	13·93	12·09	12·58	40·38	36·04	35·54	134·13	115·70	124 26
Smallpox	...	0·01	0·15	...	...	0·12	...	...	0·08
Measles	...	...	...	...	...	...	...	...	...
Scarlatina	0·01	0·01	...	...	...	...	...	...	...
Diphtheria, Memb. Croup	0·03	0·01	0·01	0·01	0·01	...	...	...	...
Whooping Cough	...	...	...	...	...	...	...	...	...
Typhus	0·02	0·01	...	0·03	...	0·01	...	...	...
Fever...... Enteric	0·45	0·32	0·32	0·28	0·13	0·22	0·15	...	...
Continued	...	...	...	0·01	...	...	...	...	...
Diarrhœal Diseases	0·04	0·02	0·11	0·22	0·23	0·58	1·00	1·07	3·70
Tubercular Diseases	3·94	3·75	3·93	3·93	3·76	3·53	1·54	1·30	1·81
Brain	1·02	1·00	1·09	4·70	4·49	4·61	19·38	15·70	19·11
Heart	1·67	1·24	1·05	5·98	6·04	5·50	18·15	18·98	16·84
Diseases of Lungs	2·51	2·08	2·24	12·64	10·30	10·23	43·15	34·76	37·69
Digestive System	0·51	0·50	0·42	1·93	1·92	2·00	3·85	5·26	5·51
Urinary System	0·55	0·48	0·46	1·91	1·71	1·58	3·15	3·96	3·70
Other Diseases	3·18	2·66	2·81	8·74	7·45	7·16	43·76	34·67	35·73

* For death-rates at all ages, see table L.

TABLE N, 1891.—ANNUAL RATES OF MORTALITY IN STATISTICAL DIVISIONS, AT SIX GROUPS OF AGES,* PER 1,000 LIVING AT THOSE AGE-GROUPS, FROM CERTAIN PREVALENT DISEASES AND GROUPS OF DISEASES.

CAUSES OF DEATH		Under 5 Years*			5 to 15 Years			15 to 25 Years		
		Manchester Township	North Manchester	South Manchester	Manchester Township	North Manchester	South Manchester	Manchester Township	North Manchester	South Manchester
All Causes		108·59	72·23	80·68	5·57	4·24	4·62	6·32	5·16	5·50
Smallpox		...	...	...	...	...	...	...	...	...
Measles		5·28	3·11	2·05	0·09	0·10	0·10	...	0·04	...
Scarlatina		1·40	1·34	1·04	0·22	0·21	0·43	...	...	...
Diphtheria, Memb. Croup		1·45	2·32	0·76	0·28	0·34	0·21	0·07	0·04	0·06
Whooping Cough		9·53	5·37	8·09	0·22	0·07	0·21	...	...	...
Fever	Typhus	...	...	...	...	...	...	0·07	...	...
	Enteric	0·22	0·24	0·14	0·28	0·27	0·35	0·71	0·31	0·55
	Continued	...	0·06	0·07	...	0·03	0·02	...	...	...
Diarrhœal Diseases		8·35	5·12	5·24	0·12	...	0·06	...	...	0·02
Tubercular Diseases		7·06	4·88	8·89	1·41	0·48	0·91	2·16	1·68	1·97
Diseases of	Brain	14·76	8·30	11·84	0·58	0·65	0·56	0·24	0·35	0·42
	Heart	0·16	0·31	0·14	0·15	0·03	0·33	0·34	0·47	0·34
	Lungs	27·58	20·26	22·29	1·32	0·65	0·58	1·08	0·39	0·59
	Digestive System	4·63	3·29	2·47	0·25	0·17	0·23	0·34	0·47	0·21
	Urinary System	0·16	0·18	0·24	0·03	0·07	0·06	0·10	0·04	0·13
Other Diseases		28·01	17·45	17·42	0·62	1·17	0·57	1·21	1·37	1·21

CAUSES OF DEATH		25 to 45 Years			45 to 65 Years			Over 65 Years		
		Manchester Township	North Manchester	South Manchester	Manchester Township	North Manchester	South Manchester	Manchester Township	North Manchester	South Manchester
All Causes		17·47	10·94	13·23	51·09	32·16	37·34	152·81	121·13	130·06
Smallpox		...	...	...	...	...	...	...	...	...
Measles		...	...	...	...	...	...	...	...	...
Scarlatina		...	...	0·01	...	...	...	...	...	...
Diphtheria, Memb. Croup		0·02	0·03	0·03	...	...	0·03	...	...	...
Whooping Cough		...	...	...	...	...	...	...	...	...
Fever	Typhus	0·02	0·03	0·01	0·05	0·06	...	...	...	...
	Enteric	0·42	0·31	0·54	0·33	0·25	0·25	...	0·32	0·16
	Continued	...	...	...	...	0·06	...	...	...	...
Diarrhœal Diseases		0·05	0·06	0·03	0·29	0·13	0·22	1·13	0·32	1·26
Tubercular Diseases		5·11	2·90	3·73	5·80	2·22	3·53	3·10	1·61	0·63
Diseases of	Brain	1·13	0·88	1·02	4·76	4·75	4·64	16·63	22·23	19·52
	Heart	2·20	1·05	1·65	6·94	5·00	5·82	21·43	11·92	19·37
	Lungs	3·56	2·07	2·07	17·93	9·94	10·46	59·77	31·89	39·36
	Digestive System	0·44	0·54	0·54	1·95	1·65	2·07	3·95	2·90	4·25
	Urinary System	0·60	0·34	0·62	2·85	0·95	1·75	5·07	1·93	2·68
Other Diseases		3·92	2·73	2·98	10·19	7·15	8·57	41·73	48·01	42·83

* For death-rates at *all ages*, see Table L.

TABLE N, 1892.—ANNUAL RATES OF MORTALITY IN STATISTICAL DIVISIONS, AT SIX GROUPS* OF AGES, PER 1,000 LIVING AT THOSE AGE-GROUPS, FROM CERTAIN PREVALENT DISEASES AND GROUPS OF DISEASES.

CAUSES OF DEATH		Under 5 Years			5 to 15 Years			15 to 25 Years		
		Manchester Township	North Manchester	South Manchester	Manchester Township	North Manchester	South Manchester	Manchester Township	North Manchester	South Manchester
All Causes		101·47	63·50	71·47	6·17	3·82	3·94	6·30	4·33	5·34
Smallpox		0·05	...	...	...	...	...	...	...	...
Measles		9·94	3·23	3·88	0·37	0·07	0·08	...	...	...
Scarlatina		1·78	2·03	0·96	0·52	0·54	0·15	0·03	...	0·02
Diphtheria, Memb. Croup		2·11	1·91	0·93	0·22	0·20	0·23	0·03	0·04	0·06
Whooping Cough		6·54	4·36	5·36	0·19	0·13	0·15	...	...	...
Fever	Typhus	...	...	...	...	...	...	...	...	...
	Enteric	0·05	0·12	0·14	0·31	0·20	0·21	0·34	0·31	0·31
	Continued	0·05	...	0·03	...	...	0·02	...	...	...
Diarrhœal Diseases		8·05	4·48	5·33	0·06	0·07	0·02	...	0·04	...
Tubercular Diseases		6·97	3·35	7·05	1·36	0·57	0·96	2·58	1·46	2·04
Diseases of	Brain	9·83	6·93	7·22	0·68	0·30	0·36	0·27	0·38	0·27
	Heart	0·16	0·30	0·07	0·46	0·27	0·29	0·47	0·50	0·42
	Lungs	23·34	15·77	16·23	0·96	0·50	0·52	0·85	0·54	0·77
	Digestive System	5·40	3·94	3·30	0·19	0·17	0·19	0·27	0·15	0·33
	Urinary System	0·05	0·06	0·28	0·06	0·07	0·12	0·17	0·08	0·13
Other Diseases		27·15	17·02	20·69	0·79	0·73	0·64	1·29	0·83	0·99

CAUSES OF DEATH		25 to 45 Years			45 to 65 Years			Over 65 Years		
		Manchester Township	North Manchester	South Manchester	Manchester Township	North Manchester	South Manchester	Manchester Township	North Manchester	South Manchester
All Causes		15·72	9·66	11·10	47·33	26·97	33·20	143·34	103·79	106·35
Smallpox		...	0·03	...	...	...	...	...	...	...
Measles		...	...	...	...	...	...	...	...	...
Scarlatina		0·02	...	...	...	...	...	...	...	...
Diphtheria, Memb. Croup		...	...	0·01	0·05	...	...	...	...	...
Whooping Cough		...	...	...	...	...	...	...	...	...
Fever	Typhus	...	0·03	...	...	...	...	...	...	...
	Enteric	0·28	0·42	0·30	0·10	0·06	0·19	...	...	...
	Continued	...	...	...	...	...	...	...	...	...
Diarrhœal Diseases		0·02	0·03	0·01	0·24	0·43	0·13	1·41	0·95	0·94
Tubercular Diseases		5·49	2·25	3·45	5·68	2·42	3·18	3·11	...	0·94
Diseases of	Brain	1·16	0·78	1·01	3·86	4·46	4·91	15·27	15·77	15·91
	Heart	1·69	0·86	1·16	8·44	3·91	5·54	23·75	17·03	17·31
	Lungs	3·08	1·36	1·82	14·98	7·07	8·85	46·93	27·76	31·50
	Digestive System	0·33	0·61	0·55	2·34	1·55	1·83	5·09	5·05	5·46
	Urinary System	0·63	0·42	0·42	2·38	1·05	1·61	5·94	2·21	3·74
Other Diseases		3·02	2·87	2·37	9·26	6·02	6·96	41·84	35·02	30·55

* For death-rates at *all ages*, see Table L.

TABLE N, 1893.—ANNUAL RATES OF MORTALITY IN STATISTICAL DIVISIONS, AT SIX GROUPS* OF AGES, PER 1,000 LIVING AT THOSE AGE-GROUPS, FROM CERTAIN PREVALENT DISEASES AND GROUPS OF DISEASES.

CAUSES OF DEATH		Under 5 Years			5 to 15 Years			15 to 25 Years		
		Manchester Township	North Manchester	South Manchester	Manchester Township	North Manchester	South Manchester	Manchester Township	North Manchester	South Manchester
All Causes		105·85	68·45	81·24	4·73	4·46	4·66	5·88	4·16	4·78
Smallpox		0·22	0·12	...	0·06	0·10	...	0·14	0·08	0·02
Measles		6·72	4·51	2·72	0·09	0·16	0·08	...	...	...
Scarlatina		1·63	2·05	0·95	0·09	0·49	0·49	0·03	0·04	0·02
Diphtheria, Memb. Croup		2·17	2·17	2·35	0·09	0·33	0·32	0·03	0·04	0·04
Whooping Cough		4·93	1·99	3·51	0·12	0·07	0·09	...	...	...
Fever	Typhus	...	...	...	...	...	...	...	...	...
	Enteric	0·22	0·18	0·07	0·09	0·33	0·15	0·27	0·30	0·37
	Continued	0·05	0·06	...	0·03	...	...	...	...	...
Diarrhœal Diseases		16·42	10·47	12·26	0·03	0·03	0·08	0·07	...	0·02
Tubercular Diseases		7·53	4·39	7·76	1·08	0·56	1·21	1·63	1·61	1·67
Diseases of	Brain	9·70	5·56	7·35	0·43	0·33	0·30	0·36	0·15	0·35
	Heart	0·16	0·29	0·37	0·31	0·26	0·34	0·68	0·26	0·33
	Lungs	23·74	13·16	16·65	1·18	0·85	0·47	0·95	0·64	0·70
	Digestive System	5·15	4·51	4·05	0·22	0·16	0·36	0·14	0·26	0·25
	Urinary System	0·22	0·41	0·24	0·12	0·07	0·09	0·34	0·04	0·08
Other Diseases		26·99	18·61	22·95	0·77	0·72	0·66	1·29	0·75	0·93

CAUSES OF DEATH		25 to 45 Years			45 to 65 Years			Over 65 Years		
		Manchester Township	North Manchester	South Manchester	Manchester Township	North Manchester	South Manchester	Manchester Township	North Manchester	South Manchester
All Causes		17·09	9·24	11·57	44·89	29·14	32·72	144·64	107·20	121·68
Smallpox		0·30	0·19	0·03	0·10	0·24	0·06	0·28	...	...
Measles		...	...	...	...	...	...	...	...	...
Scarlatina		...	...	...	...	...	...	...	...	...
Diphtheria, Memb. Croup		...	0·03	0·01	...	...	...	...	...	...
Whooping Cough		...	...	...	...	...	...	...	0·31	...
Fever	Typhus	...	...	...	0·05	...	...	...	...	...
	Enteric	0·19	0·27	0·43	0·19	0·24	0·22	...	...	...
	Continued	...	...	...	...	...	...	...	...	...
Diarrhœal Diseases		0·16	0·08	0·09	0·77	0·67	0·41	3·40	4·02	3·71
Tubercular Diseases		5·67	2·43	3·64	5·46	1·52	3·31	4·25	1·24	0·77
Diseases of	Brain	1·23	0·84	1·14	4·93	5·04	4·18	15·31	18·54	21·46
	Heart	1·65	0·68	0·87	6·37	4·92	5·24	22·69	14·52	14·82
	Lungs	3·19	1·77	1·91	14·21	8·26	8·64	46·23	29·66	37·06
	Digestive System	0·47	0·46	0·37	2·01	1·76	2·12	6·24	4·02	5·87
	Urinary System	0·53	0·35	0·47	2·15	0·97	1·53	6·52	1·55	3·24
Other Diseases		3·70	2·13	2·62	8·66	5·53	7·02	39·71	33·36	34·74

* For death-rates at *all ages*, see Table L.

TABLE O, 1891.

MANCHESTER.—Certification of the Causes of Death in Main Divisions and in Townships.

	STATISTICAL AREAS	Total Deaths	Certified by		Not Certified	Proportion per cent. of Deaths		
						Certified by		Not Certified
			Registered Medical Practitioners	Coroner		Regist'd Medical Practitioners	Coroner	
	City of Manchester ……	**13,202**	**12,063**	**904**	**235**	**91·4**	**6·8**	**1·8**
	(divisions)							
	I. Manchester Township …	4,756	4,267	382	107	89·7	8·0	2·3
	II. North Manchester ……	2,709	2,512	174	23	92·8	6·4	0·8
	III. South Manchester ……	5,737	5,284	348	105	92·1	6·1	1·8
	(townships)							
I.	Ancoats ……………	1,613	1,450	118	45	89·9	7·3	2·8
	Central ………………	1,217	1,063	123	31	87·3	10·1	2·6
	St. George's …………	1,926	1,754	141	31	91·1	7·3	1·6
II.	Cheetham ……………	502	463	35	4	92·2	7·0	0·8
	Crumpsall ……………	149	141	8	0	94·6	5·4	…
	Blackley ………………	172	159	10	3	92·4	5·8	1·8
	Harpurhey ……………	175	167	6	2	95·4	3·4	1·2
	Moston ………………	89	85	3	1	95·5	3·4	1·1
	Newton Heath ………	760	698	57	5	91·8	7·5	0·7
	Bradford ………………	540	498	37	5	92·2	6·9	0·9
	Beswick ………………	252	240	10	2	95·3	3·9	0·8
	Clayton ………………	70	61	8	1	87·1	11·4	1·5
III.	Ardwick ………………	926	847	62	17	91·5	6·7	1·8
	Openshaw ……………	557	515	29	13	92·5	5·2	2·3
	Gorton (West) ………	574	526	29	19	91·6	5·1	3·3
	Rusholme and Kirk. …	298	278	15	5	93·3	5·0	1·7
	Chorlton-upon-Medlock	1,365	1,265	76	24	92·7	5·6	1·7
	Hulme …………………	2,017	1,853	137	27	91·9	6·8	1·3

TABLE O, 1892.

MANCHESTER.—Certification of the Causes of Death in Main Divisions and in Townships.

	STATISTICAL AREAS	Total Deaths	Certified by		Not Certified	Proportion per cent. of Deaths		
			Registered Medical Practitioners	Coroner		Certified by		Not Certified
						Regist'd Medical Practitioners	Coroner	
	City of Manchester ……	**11,893**	**10,774**	**883**	**236**	**90·6**	**7·4**	**2·0**
	(DIVISIONS)							
I.	Manchester Township…	4,441	3,961	370	110	89·2	8·3	2·5
II.	North Manchester ……	2,401	2,208	161	32	92·0	6·7	1·3
III.	South Manchester ……	5,051	4,605	352	94	91·1	7·0	1·9
	(TOWNSHIPS)							
I.	Ancoats …………………	1,422	1,279	113	30	89·9	8·0	2·1
	Central………………	1,178	1,020	127	31	86·6	10·8	2·6
	St. George's …………	1,841	1,662	130	49	90·3	7·0	2·7
II.	Cheetham………………	440	410	27	3	93·2	6·1	0·7
	Crumpsall………………	123	119	4	…	96·7	3·3	…
	Blackley ……………	130	123	6	1	94·6	4·6	0·8
	Harpurhey …………	172	160	12	…	93·0	7·0	…
	Moston ………………	81	75	6	…	92·6	7·4	…
	Newton Heath………	749	680	55	14	90·8	7·3	1·9
	Bradford ……………	427	389	31	7	91·1	7·3	1·6
	Beswick ………………	220	200	17	3	90·9	7·7	1·4
	Clayton ……………	59	52	3	4	88·1	5·1	6·8
III.	Ardwick ……………	732	665	50	17	90·9	6·8	2·3
	Openshaw ……………	519	483	30	6	93·1	5·8	1·1
	Gorton (West) ………	522	474	39	9	90·8	7·5	1·7
	Rusholme and Kirk…..	268	237	27	4	88·4	10·1	1·5
	Chorlton-upon-Medlock	1,249	1,125	106	18	90·1	8·5	1·4
	Hulme ………………	1,761	1,621	100	40	92·0	5·7	2·3

TABLE O, 1893.

MANCHESTER.—Certification of the Causes of Death in Main Divisions and in Townships.

STATISTICAL AREAS		Total Deaths	Certified by		Not Certified	Proportion per cent. of Deaths		
						Certified by		Not Certified
			Registered Medical Practitioners	Coroner		Regist'd Medical Prac-titioners	Coroner	
City of Manchester		12,559	11,526	863	170	91.7	6.9	1.4
(DIVISIONS)								
I.	Manchester Township	4,462	4,042	346	74	90.6	7.7	1.7
II.	North Manchester	2,583	2,393	159	31	92.7	6.1	1.2
III.	South Manchester	5,514	5,091	358	65	92.3	6.5	1.2
(TOWNSHIPS)								
I.	Ancoats	1,536	1,399	117	20	91.1	7.6	1.3
	Central	1,069	961	87	21	89.9	8.1	2.0
	St. George's	1,857	1,682	142	33	90.6	7.6	1.8
II.	Cheetham	447	408	36	3	91.3	8.0	0.7
	Crumpsall	118	107	10	1	90.7	8.5	0.8
	Blackley	170	163	6	1	95.9	3.5	0.6
	Harpurhey	205	192	10	3	93.6	4.9	1.5
	Moston	84	79	5	...	94.1	5.9	...
	Newton Heath	737	679	48	10	92.1	6.5	1.4
	Bradford	498	463	29	6	93.0	5.8	1.2
	Beswick	232	216	10	6	93.1	4.3	2.6
	Clayton	92	86	5	1	93.5	5.4	1.1
III.	Ardwick	818	761	48	9	93.1	5.8	1.1
	Openshaw	616	578	32	6	93.8	5.2	1.0
	Gorton (West)	619	555	49	15	89.7	7.9	2.4
	Rusholme and Kirk.	303	279	20	4	92.1	6.6	1.3
	Chorlton-upon-Medlock	1,304	1,219	76	9	93.5	5.8	0.7
	Hulme	1,854	1,699	133	22	91.6	7.2	1.2

TABLE P, 1889–92.—Particulars as to Manchester Patients under treatment in the several Fever Hospitals during the Years 1891–2; together with the Number of Admissions to Hospital in each of the Two Years immediately preceding.

Disease	Hospital	Admissions		1891				1892			
		1889	1890	Admitted	Discharged	Died	In Hospital close of year	Admitted	Discharged	Died	In Hospital close of year
Smallpox	Monsall	0	0	2	2	0	0	109	45	2	62
	Other Hospitals	0	0	0	0	0	0	1	0	0	1
	Total	0	0	2	2	0	0	110	45	2	63
Scarlet Fever	Monsall	1073	1293	631	617	66	120	888	801	81	126
	Pendlebury ...	148	138	69	61	12	14	93	88	5	14
	Other Hospitals	4	3	4	3	1	...	1	0	0	1
	Total	1225	1434	704	681	79	134	982	889	86	141
Diphtheria	Monsall	117	101	78	64	18	4	112	78	22	16
	Pendlebury ...	2	0	3	1	1	1	7	5	3	0
	Other Hospitals	2	0	6	1	4	1	3	2	1	1
	Total	121	101	87	66	23	6	122	85	26	17
Enteric Fever...	Monsall	124	168	331	251	66	47	288	250	51	34
	Pendlebury ...	0	4	14	9	3	2	9	10	0	1
	Other Hospitals	23	8	42	19	12	11	11	15	4	3
	Total	147	180	387	279	81	60	308	275	55	38
Typhus Fever...	Monsall	3	6	14	13	3	0	5	4	1	0
	Pendlebury ...	0	0	0	0	0	0	0	0	0	0
	Other Hospitals	0	0	3	1	2	0	0	0	0	0
	Total	3	6	17	14	5	0	5	4	1	0
Other Acute Diseases	Monsall	125	132	53	36	14	5	88	66	25	2
	Pendlebury ...	1	3	0	0	0	0	0	0	0	0
	Other Hospitals	1	1	1	0	1	0	2	2	0	0
	Total	127	136	54	36	15	5	90	68	25	2
All Diseases		1623	1857	1251	1078	203	205	1617	1366	195	261

TABLE P, 1893.—PARTICULARS AS TO MANCHESTER PATIENTS UNDER TREATMENT IN THE SEVERAL FEVER HOSPITALS DURING THE YEAR; ALSO OF PATIENTS FROM OUTSIDE DISTRICTS SENT TO MONSALL DURING THE SAME PERIOD.

DISEASE	HOSPITAL	In Hospital commencement of year	Admitted	Discharged	Died	Remaining in Hospital close of year
SMALLPOX	Monsall, Clayton Vale	62	612	624	46	4
	Other Hospitals	1	...	1	...	...
	Total	63	612	625	46	4
SCARLET FEVER ...	Monsall	126	1,091	923	81	213
	Pendlebury	14	89	83	9	11
	Other Hospitals.........	1	5	6	...	...
	Total	141	1,185	1,012	90	224
DIPHTHERIA	Monsall	16	109	93	22	10
	Pendlebury	...	2	1	1	...
	Other Hospitals	1	3	2	2	...
	Total	17	114	96	25	10
ENTERIC FEVER ...	Monsall	34	226	187	43	30
	Pendlebury	1	7	6	...	2
	Other Hospitals	3	25	12	11	5
	Total	38	258	205	54	37
TYPHUS FEVER	Monsall	...	1	...	1	...
	Pendlebury	...	...	...	...	...
	Other Hospitals	...	...	...	...	...
	Total	...	1	...	1	...
OTHER ACUTE DISEASES	Monsall	2	277	237	34	8
	Pendlebury	...	2	1	1	...
	Other Hospitals	...	1	1	...	...
	Total	2	280	239	35	8
ALL DISEASES............................		261	2,450	2,177	251	283

PATIENTS SENT TO MONSALL, FROM DISTRICTS OUTSIDE THE CITY, DURING THE YEAR 1893.

DISEASE	Salford	Withington	Stretford	Moss Side	Swinton and Pendlebury	Sale	Prestwich	Gorton	Failsworth	Other Districts
Smallpox	5	17	11	9	7	1	1	2	19	4
Scarlatina	2	47	40	23	2	6	2	4	4	3
Diphtheria	...	3	...	1	1	...	...	...	...	2
Enteric Fever......................	1	3	4	1	3	...	...	4	4	1
Other Diseases	4	2	2	2	6	...	...	3	5	11
Totals	12	72	57	36	19	7	3	13	32	21

TABLE Q.

AVERAGE ANNUAL DEATH-RATES FROM ALL CAUSES IN GROUPS OF ENUMERATION DISTRICTS DURING THE THREE YEARS 1888-89-90. INSTITUTION DEATHS DISTRIBUTED. (See Chart, page 160.)

No. of Group	BOUNDED BY	Enumerated Population, Census 1891	Deaths. Three Years, 1888-90	Average Annual Death-rate
	(ANCOATS)			
1	Oldham Road, Great Ancoats Street, Union Street, and German Street.	4,562	625	45·7
2	Rodney Street, Leigh Street East, Butler Street, and Rochdale Canal.	629	83	44·0
3	Oldham Road, Naylor Street, Walker Street, and Garratt Street.	1,047	129	41·1
4	Great Ancoats Street, John Street, Pott Street, Sandford Street, Cannel Street, Wharf Street, Mill Street, Vesta Street, Ashton Canal, Beswick Street, Mitchell Street, Pollard Street, Amos Street, Harrison Street, Holmes Street, Tame Street, Buckley Street, North Street, and Pollard Street.	4,119	590	47·7
5	Oldham Road, German Street, Union Street, Great Ancoats Street, John Street, Pott Street, New Islington, Canning Street, Daniel Street, Butler Street, Rochdale Canal, and Rodney Street.	6,312	667	35·2
6	Mill Street, Kirby Street, Grey Street, Carruthers Street, and Bradford Street.	657	69	35·0
7	Great Ancoats Street, Tame Street, Buckley Street, North Street, and Pollard Street.	1,206	129	35·7
8	Pollard Street, Amos Street, Harrison Street, Holme Street, Tame Street, Harding Street, Every Street, and Mitchell Street.	1,651	186	37·6
9	Oldham Road, Butler Street, Ravald Street, Lloyd Street, Township boundary, Walker Street, and Naylor Street.	3,774	365	32·2

TABLE Q—*continued.*

No. of Group	Bounded by	Enumerated Population, Census 1891	Deaths. Three Years, 1888-90	Average Annual Death-rate
10	Oldham Road, Sycamore Street, and Township boundary.	1,350	122	30·1
11	Butler Street, Ridgway Street, Township boundary, and Holland Street.	993	93	31·2
12	Pott Street, Sandford Street, Cannel Street, Wharf Street, Mill Street, Kirby Street, Grey Street, Whalley Street, and New Islington.	710	67	31·5
13	Mill Street, Vesta Street, Ashton Canal, Beswick Street, River Medlock, Gibbon Street, and Bradford Road.	2,709	247	30·4
14	Oldham Road, Rodney Street, Leigh Street East, and Butler Street.	525	45	28·6
15	Butler Street, Ravald Street, Lloyd Street, and North Porter Street.	801	66	27·5
16	Oldham Road, Garratt Street, Walker Street, and Sycamore Street.	1,235	93	25·1
17	Whalley Street, Woodward Street, Canning Street, Daniel Street, Ridgway Street, Davies Street, Township boundary, Whitby Street, Bradford Road, Bradford Street, Carruthers Street, and Grey Street.	4,911	391	26·5
18	Great Ancoats Street, Tame Street, Harding Street, Every Street, River Medlock.	4,387	358	27·2
19	Butler Street, North Porter Street, Lloyd Street, Township boundary, and Holland Street.	547	33	20·1
20	Bradford Road, Whitby Street, Township boundary, River Medlock, and Gibbon Street.	3,226	227	23·5
21	River Medlock, and boundary of Ardwick and Beswick.	631	26	13·7
	(CENTRAL)			
22	Shudehill, Dantzic Street, and Miller Street.	700	96	45·7

TABLE Q—*continued.*

No. of Group	Bounded by	Enumerated Population, Census 1891	Deaths. Three Years, 1888-90	Average Annual Death-rate
23	Deansgate, Bridge Street, Water Street, Irwell Street, and Cumberland Street.	820	99	40·3
24	Deansgate, Hardman Street, Byrom Street, and Quay Street.	814	113	46·3
25	Deansgate, Camp Street, Lower Byrom Street, and Tickle Street.	562	71	42·2
26	Deansgate, Great Bridgewater Street, Lower Mosley Street, Windmill Street, and Peter Street.	1,739	209	40·0
27	London Road, Whitworth Street, Rifle Street, and Granby Row.	1,095	160	48·7
28	Great Ancoats Street, Chapel Street, Congou Street, Baird Street, Portugal Street East, and Long Street.	552	83	50·1
29	Corporation Street, Withy Grove, Dantzic Street, and Miller Street.	917	106	38·5
30	Piccadilly, Oldham Street, Stevenson's Square, Lever Street, Great Ancoats Street, and Port Street.	865	93	35·8
31	Deansgate, Tickle Street, Lower Byrom Street, Grape Street, Water Street, Liverpool Road, Rice Street, and Bridgewater Street.	1,973	220	37·2
32	Deansgate, Great Bridgewater Street, Albion Street, and River Medlock.	1,407	163	38·6
33	London Road, Rochdale Canal, Princess Street, River Medlock, London Road, Granby Row, Rifle Street, and Whitworth Street.	1,279	141	36·7
34	London Road, Ducie Street, Lees Street, Great Ancoats Street, Chapel Street, Boad Street, and Store Street.	1,879	205	36·4
35	Great Ancoats Street, Long Street, Portugal Street East, Travis Street, and Watson Street.	1,373	146	35·4

TABLE Q—*continued.*

No. of Group	Bounded by	Enumerated Population, Census 1891	Deaths. Three Years, 1888-90	Average Annual Death-rate
36	Shudehill, Thomas Street, Hilton Street, Lever Street, Great Ancoats Street, and Swan Street.	798	77	32·2
37	Deansgate, Peter Street, Windmill Street, Lower Mosley Street, Cooper Street, Princess Street, and Brazennose Street.	444	42	31·5
38	Deansgate, Quay Street, Byrom Street, and Camp Street.	461	48	34·7
39	London Road, Store Street, Boad Street, Chapel Street, Congou Street, Baird Street, Portugal Street East, Travis Street, Fairfield Street, St. Andrew Street, Watson Street, Great Ancoats Street, and River Medlock.	4,728	468	33·0
40	Deansgate, Cumberland Street, Irwell Street, Water Street, Albert Bridge, River Irwell, River Medlock, Deansgate, Bridgewater Street, Rice Street, Liverpool Road, Water Street, Grape Street, Camp Street, Byrom Street, and Hardman Street.	4,919	397	26·9
41	Princess Street, Cooper Street, Lower Mosley Street, Albion Street, and River Medlock.	547	46	28·0
42	Fairfield Street, Travis Street, and St. Andrew Street.	1,204	105	29·0
43	Long Millgate, River Irk, Township boundary, Red Bank, Park Street, Township boundary, and Cheetham Hill Road.	2,285	145	21·2
44	Market Street, St. Mary's Gate, River Irwell, Bridge Street, Deansgate, Brazennose Street, and Cross Street.	493	33	22·3
45	Piccadilly, Portland Street, Princess Street, and Rochdale Canal.	846	62	24·4
46	Red Bank, Lord Street, and Township boundary.	1,562	76	16·2

TABLE Q—*continued.*

No. of Group	Bounded by	Enumerated Population, Census 1891	Deaths. Three Years, 1888-90	Average Annual Death-rate
47	St. Mary's Gate, Market Street, Corporation Street, Cheetham Hill Road, New Bridge Street, Township boundary, and River Irwell.	824	41	16·6
48	Piccadilly, Port Street, Great Ancoats Street, Lees Street, and Ducie Street	519	30	19·3
49	Red Bank, Lord Street, Township boundary, and Park Street.	854	38	14·8
50	Market Street, Corporation Street, Withy Grove, Shudehill, Thomas Street, Hilton Street, and Oldham Street.	479	18	12·5
51	Market Street, Piccadilly, Portland Street, Princess Street, and Cross Street.	357	7	6·5
	(ST. GEORGE'S)			
52	Miller Street, Rochdale Road, Gould Street, Back Irk Street, River Irk, and Long Millgate.	6,105	922	50·3
53	Rochdale Road, Lower Tebbutt Street, Lancashire and Yorkshire Railway, and Nelson Street.	1,061	141	44·2
54	Rochdale Road, Goulden Street, Oldham Road, and Thompson Street.	945	120	42·3
55	Swan Street, Rochdale Road, Goulden Street, and Oldham Road.	1,133	125	36·8
56	Rochdale Road, Thompson Street, Oldham Road, and Lees Street.	1,285	151	39·2
57	Rochdale Road, Nelson Street, Lancashire and Yorkshire Railway, Ashley Lane, River Irk, Barlow Street, and Buckley Street.	4,014	455	37·8
58	Rochdale Road, Gould Street, Back Irk Street, Lancashire and Yorkshire Railway, and Lower Tebbutt Street	762	78	34·1
59	Rochdale Road, Reather Street, New Allen Street, Back Cropper Street, and Osborne Street.	1,832	169	30·7

TABLE Q—*continued.*

No. of Group	BOUNDED BY	Enumerated Population, Census 1891	Deaths. Three Years, 1888-90	Average Annual Death-rate
60	Rochdale Road, Livesey Street, Oldham Road, Chapman Street, Sudell Street, and Reather Street.	2,160	188	29·0
61	Rochdale Road, Osborne Street, Lancashire and Yorkshire Railway, and Whitley Street.	1,954	148	25·2
62	Rochdale Road, Buckley Street, Barlow Street, River Irk, and Eggington Street.	3,761	384	26·9
63	Collyhurst Street, Hamilton Street, Churnett Street, Cheltenham Street, Queen's Road, Lancashire and Yorkshire Railway, Township boundary, Lodge Street, Queen's Road, and Township boundary to Collyhurst Street.	9,372	773	27·5
64	Boardman Street, River Irk, and Township boundary.	1,926	166	28·7
65	Rochdale Road, Lees Street, Oldham Road, and Livesey Street.	2,132	153	23·9
66	Oldham Road, Chapman Street, Sudell Street, Reather Street, New Allen Street, Back Cropper Street, Lancashire and Yorkshire Railway, Whitley Street, Rochdale Road, Queen's Road, Cheltenham Street, Churnett Street, Hamilton Street, and Collyhurst Street.	11,456	785	22·8
67	Rochdale Road, Eggington Street, and Collyhurst Road.	2,309	151	21·7
68	Queen's Road, Lodge Street, and Township boundary.	2,193	158	24·0
69	Rochdale Road, Collyhurst Road, Smedley Road, River Irk, and Boardman Street.	2,831	145	17·1
70	Rochdale Road, Queen's Road, Lancashire and Yorkshire Railway, and Township boundary.	2,015	110	18·2

TABLE Q—*continued.*

No. of Group	BOUNDED BY	Enumerated Population, Census 1891	Deaths. Three Years, 1888–90	Average Annual Death-rate
	(CHEETHAM)			
71	Great Ducie Street, Township boundary, River Irwell, and Sherbourne Street.	2,867	190	22·1
72	North Street, Cheetham Hill Road, Queen's Road, River Irk, and Township boundary.	1,512	94	20·7
73	New Bridge Street, Great Ducie Street, Sherbourne Street, River Irwell, Township boundary, Garnett Street, Waterloo Road, Elizabeth Street, Sherbourne Street, Exchange Street, Southall Street, Lord Street, and Cheetham Hill Road.	8,521	439	17·2
74	Cheetham Hill Road, Township boundary, and North Street.	2,033	98	16·1
75	Lord Street, Southall Street, Elizabeth Street, Waterloo Road, Garnett Street, Township boundary to Queen's Road, Cheetham Hill Road.	13,395	514	12·8
	(HARPURHEY)			
76	Passage north side of Mary Street, Township boundary, West Factory Lane, Moston Lane, Township boundary, East Passage on the south of Melville Street.	1,326	129	32·4
77	Hilton Street, straight line to Moston Township, East boundary of Township, Cartmel Street, Belper Street, West boundary of Township.	1,201	94	26·1
78	West boundary of Township, Cartmel Street, Belper Street, East and South boundaries of Township.	1,648	85	17·2
79	South boundary of Township, West boundary of Township, Passage north side of Mary Street, Passage south side of Melville Street, North-east boundary of Township, and straight line to Hilton Street.	4,205	150	11·9

TABLE Q—*continued.*

No. of Group	Bounded by	Enumerated Population, Census 1891	Deaths. Three Years, 1888-90	Average Annual Death-rate
	(BESWICK)			
80	Rowsley Street, Loop Railway, East boundary of Township, and Ashton New Road.	982	79	26·8
81	Ashton New Road, Devon Street, Palmerston Street, and River Medlock.	1,725	109	21·0
82	Ashton New Road, River Medlock, East boundary of Township, Loop Railway, and Rowsley Street.	3,763	246	21·8
83	Ashton New Road, Lancashire and Yorkshire Railway, and Southern boundary of Township.	1,438	91	21·1
84	Ashton New Road, Lancashire and Yorkshire Railway, South boundary of Township, and Devon Street.	1,783	95	17·7
	(BRADFORD)			
85	Ashton New Road, Mill Street, and Gibbon Street.	1,306	114	29·1
86	Parker Street, Albert Street, and North and West boundaries of Township.	3,017	241	26·6
87	Harold Street, Barlow Street, Howarth Street, Birch Street, Mill Street, Rudkin Street, Township boundary South, Wellington Street, Wyatt Street, Mill Street, and Cross Street.	2,696	217	26·8
88	Ashton New Road, West Township boundary, River Medlock, East Township boundary, Gibbon Street, and Mill Street.	2,874	195	22·6
89	Ashton New Road, Parker Street, Cross Street, Harold Street, Grey Mare Lane, Chatham Street, Howarth Street, Birch Street, Mill Street, Cross Street, and East Township boundary.	4,284	268	20·9
90	Albert Street, Nelson Street, Barlow Street, and Township boundaries South and West.	1,493	97	21·6

TABLE Q—*continued.*

No. of Group	Bounded by	Enumerated Population, Census 1891	Deaths. Three Years, 1888–90	Average Annual Death-rate
91	Ashton Road, Grey Mare Lane, Wilson Street, and Mill Street.	1,411	99	23·4
92	Barlow Street, Wellington Street, Harold Street, and South Township boundary.	1,546	91	19·6
93	Ashton Road, Mill Street, Cross Street, and East Township boundary.	1,354	74	18·2
	(ARDWICK)			
94	Union Street, Dark Lane, Ainsworth Street, and Manchester Sheffield and Lincolnshire Railway.	1,080	118	36·5
95	Chancery Lane, Ashton Road, Birch Street, and Manchester Sheffield and Lincolnshire Railway.	797	85	35·6
96	River Medlock, Temperance Street, River Street, Robert Street, Tipping Street, and Manor Street.	878	91	34·5
97	Railway, River Medlock, Ashton Road, Chancery Lane, Railway, Ainsworth Street, Dark Lane, and Union Street.	2,196	202	30·7
98	Ashton Road, Ogden Street, River Medlock, and Railway.	1,155	114	32·9
99	Ashton Road, Railway, Chester Street, York Street, and Birch Street.	832	78	31·2
100	Downing Street, River Medlock, Manor Street, and Ardwick Green.	670	59	29·4
101	River Street, Temperance Street, Union Street, and Tipping Street.	1,047	85	27·7
102	Hyde Road, Bennett Street, Ashover Street, and Armitage Street.	909	74	27·2
103	Hyde Road, Railway View, Township boundary, and Wycliffe Street.	1,146	96	27·9
104	Tipping Street, Union Street, Norfolk Street, Green Street, Chapel Street East, Chapel Street, Ardwick Green, and Manor Street.	2,129	149	23·3

TABLE Q—*continued.*

No. of Group	BOUNDED BY	Enumerated Population, Census 1891	Deaths. Three Years, 1888-90	Average Annual Death-rate
105	Birch Street, York Street, Chester Street, and Branch Railway.	1,249	91	24·3
106	Ashton Road, Limebank Street, Crofts and Passage, and Viaduct Street.	2,243	158	23·5
107	Higher Ardwick, Union Street, Manchester Sheffield and Lincolnshire Railway, Township boundary, Ashover Street, Bennett Street, and Hyde Road.	4,447	300	22·5
108	Stockport Road, Hyde Road, and Syndall Street.	1,577	108	22·8
109	Shakespeare Street, Stockport Road, and Township boundary.	523	35	22·0
110	Stockport Road, Ardwick Terrace, Ross Place, Bunyan Street, Hyde Road, Wycliffe Street, Township boundary, and Grey Street.	1,397	94	22·5
111	Ardwick Green, Chapel Street, Chapel Street East, Green Street, Norfolk Street, and Higher Ardwick.	1,013	60	19·7
112	Stockport Road, Devonshire Street, Hyde Road, Bunyan Street, Ross Place, and Ardwick Terrace.	2,586	140	18·0
113	Crofts—Viaduct Street, and Township boundary.	1,133	61	17·9
114	Ashton Road, Branch Railway, Crofts and Mart Street, and Township boundary.	1,774	95	17·9
115	Stockport Road, Shakespeare Street, and Township boundary.	1,457	62	14·2
116	Stockport Road, Syndall Street, Hyde Road, and Devonshire Street.	1,440	64	14·8
117	Mart Street, Rylance Street, and Township boundary.	797	85	35·6

TABLE Q—*continued.*

No. of Group	Bounded by	Enumerated Population, Census 1891	Deaths. Three Years, 1888-90	Average Annual Death-rate
	(RUSHOLME)			
118	Wilmslow Road, Walmer Street, Heald Place, and Moss Lane East.	1,045	90	28·7
119	Wilmslow Road, Moore Street, Township boundary, and Monmouth Street.	1,048	88	28·0
120	Wilmslow Road, Monmouth Street, Township boundary, and Walmer Street.	1,425	71	16·6
121	Wilmslow Road, Lloyd Street, Park boundary, Anson Road, Birch Fields, and Dickenson Road.	1,225	61	16·6
122	Gore Brook, Hamilton Road, Township boundary, Slade Lane, and Stockport Road.	1,401	66	15·7
123	The remainder of the Township of Rusholme	6,732	227	11·2
	(CHORLTON-UPON-MEDLOCK)			
124	Oxford Street, River Medlock, and Saville Street.	1,021	141	46·0
125	Lower Ormond Street, Devonshire Street, Lower Chatham Street, and River Medlock.	851	104	40·8
126	Oxford Street, Tuer Street, Higher Ormond Street, and Booth Street West.	610	77	42·1
127	Downing Street, Grosvenor Street, Temple Street, and River Medlock.	466	49	35·0
128	Devonshire Street, Lower Cambridge Street, Clarendon Street, Township boundary, River Medlock, and Lower Chatham Street.	1,377	160	38·7
129	York Street, Saville Street, River Medlock, Greek Street, Rusholme Road, Brook Street, and Stafford Street.	1,502	150	33·3

TABLE Q—*continued.*

No. of Group	BOUNDED BY	Enumerated Population, Census 1891	Deaths. Three Years, 1888-90	Average Annual Death-rate
130	Grosvenor Street, Rutland Street, River Medlock, and Temple Street.	1,596	159	33·2
131	Oxford Street, Grosvenor Street, Lower Ormond Street, and River Medlock.	853	85	33·2
132	Clarendon Street, Lower Cambridge Street, Cavendish Street, and Township boundary.	748	72	32·1
133	Oxford Street, Booth Street West, Higher Cambridge Street, and Rosamond Street West.	816	82	33·5
134	Downing Street, Rusholme Road, Temple Street, and Grosvenor Street	643	51	26·5
135	Greek Street, Mount Street, Rutland Street, and Grosvenor Street.	775	66	28·4
136	Oxford Street, Rosamond Street West, Higher Cambridge Street, Lower Cambridge Street, Devonshire Street, Lower Ormond Street, and Cavendish Street.	1,550	138	29·7
137	Upper Brook Street, Robert Street, Temple Street, and Cottenham Street	1,342	102	25·3
138	Greenheys Lane, Hall Street, Craven Street, and Embden Street.	1,022	79	25·8
139	Oxford Street, Saville Street, York Street, Stafford Street, Brook Street, and Grosvenor Street.	1,516	110	24·2
140	Rusholme Road, Greek Street, Grosvenor Street, Temple Street, Rusholme Road, Ardwick Green, Brunswick Street, Upper Brook Street, Cottenham Street, Higher Temple Street, Robert Street, and Upper Brook Street.	5,448	337	20·6
141	Oxford Street, Burlington Street, Union Street, Craven Street, Hall Street, Boundary Lane, Booth Street West, Higher Ormond Street, and Tuer Street.	5,855	398	22·7

TABLE Q—*continued.*

No. of Group	Bounded by	Enumerated Population, Census 1891	Deaths. Three Years, 1888–90	Average Annual Death-rate
142	Oxford Street, Wilton Street, New York Street, Eldon Street, Upper Brook Street, and Grosvenor Street.	2,909	167	19·1
143	Cavendish Street, Higher Cambridge Street, Booth Street West, and Boundary Lane.	688	37	17·9
144	Embden Street, Craven Street, Pigot Street, Greenheys Lane, and Township boundary.	2,970	157	17·6
145	Burlington Street, Oxford Street, Township boundary, Acomb Street, Ducie Street, and Wright Street.	1,968	94	15·9
146	Plymouth View, Upper Brook Street, Nelson Street, Shakespeare Street, Everton Road, Freme Street, Plymouth Grove, Albert Road, Stockport Road, Township boundary, and Shaftesbury Street.	7,636	385	16·8
147	Burlington Street, Wright Street, Ducie Street, Cecil Street, Township boundary, and Greenheys Lane.	3,250	135	13·7
148	Oxford Street, Township boundary, Albert Road, Plymouth Grove, back of Freme Street, Everton Road, Shakespeare Street, Nelson Street, Upper Brook Street, Plymouth View, Shaftesbury Street, Township boundary, Stockport Road, Brunswick Street, Upper Brook Street, Eldon Street, New York Street, and Wilton Street.	11,581	395	11·4
	(HULME)			
149	Chester Road, Crown Street, Melbourne Street, and Bradshaw Street.	690	88	42·5
150	Chester Road, Lower Moss Lane, City Road, Lord Street, Wall Street, boundary wall of Barracks, and Clarence Street.	1,866	232	41·4
151	Medlock Street, Gas Works, Wilmott Street, Clarendon Street, Newcastle Street, and George Street.	1,610	209	43·3
152	Chester Road, River Medlock, City Road, and Great Jackson Street.	1,889	207	36·5

TABLE Q—*continued.*

No. of Group	Bounded by	Enumerated Population, Census 1891	Deaths. Three Years, 1888-90	Average Annual Death-rate
153	Chester Road, Hargreaves Street, City Road, and Lower Moss Lane.	1,023	110	35·8
154	City Road, Clopton Street, Bedford Street, and York Street.	1,026	111	36·0
155	Stretford Road, Wilmott Street, and Township boundary.	790	84	35·5
156	Chester Road, Bradshaw Street, Melbourne Street, Crown Street, City Road, and Hargreaves Street.	5,514	527	31·9
157	City Road, Medlock Street, George Street, Bedford Street, and Clopton Street.	2,661	268	33·6
158	Medlock Street, George Street, Newcastle Street, Clarendon Street, Wilmott Street, and Stretford Road.	2,702	270	33·3
159	City Road, Lower Moss Lane, Maple Street, and Erskine Street.	959	92	32·0
160	Egerton Street, Chester Road, Hulme Hall Lane, River Irwell, and Bridgewater Canal.	1,498	116	25·9
161	Great Jackson Street, City Road, Crown Street, and Chester Road.	1,129	87	25·7
162	Lord Street, City Road, Township boundary, Barracks, and Wall Street.	859	67	26·0
163	Stretford Road, Welcomb Street, George Street, and Medlock Street.	4,773	400	27·9
164	Clopton Street, Stretford Road, York Street, Bedford Street, George Street, Great Jackson Street, and Rutland Street.	2,142	163	25·4
165	Lower Moss Lane, Cedar Street, Erskine Street, and Maple Street.	827	74	29·8
166	Stretford Road, Township boundary, Rosamond Street, Renshaw Street, Embden Street, Upper Duke Street, Warde Street, and Upper Medlock Street.	4,268	360	28·1

TABLE Q—*concluded.*

No. of Group	Bounded by	Enumerated Population, Census 1891	Deaths. Three Years, 1888-90	Average Annual Death-rate
167	Upper Moss Lane, Denton Street, Tamworth Street, and Marple Street.	891	77	28·8
168	Chester Road, Egerton Street, Canal Wharf, and Blantyre Street.	1,116	69	20·6
169	Hulme Hall Lane, Chester Road, Township boundary, and River Irwell.	1,123	79	23·4
170	Chester Road, Clarence Street, Barracks, and Township boundary.	1,017	74	24·3
171	Stretford Road, Clopton Street, Rutland Street, Great Jackson Street, George Street, and Welcomb Street.	1,702	119	23·3
172	City Road, York Street, Stretford Road, Township boundary, City Road, Erskine Street, Cedar Street, and Lower Moss Lane.	5,296	343	21·6
173	Rosamond Street, Boundary Lane, Embden Street, and Renshaw Street.	1,062	75	23·5
174	Stretford Road, Upper Duke Street, Embden Street, Chapman Street, and Upper Jackson Street.	5,276	391	24·7
175	Stretford Road, Clopton Street, Preston Street, Radnor Street, Winchester Street, and Upper Moss Lane.	3,397	247	24·2
176	Stretford Road, Upper Moss Lane, Denton Street, Tamworth Street, and Township boundary.	3,780	263	23·2
177	Stretford Road, Upper Medlock Street, Warde Street, and Upper Duke Street.	911	48	17·6
178	Stretford Road, Upper Jackson Street, Chapman Street, South boundary of Township, Tamworth Street, Marple Street, Winchester Street, Radnor Street, Preston Street, and Clopton Street.	9,562	535	18·7
179	Lock houses, and all other houses on the banks of the Bridgewater Canal.	98	4	13·6

TABLE R.

CASES OF SMALLPOX ISOLATED IN MONSALL OR TREATED AT HOME, IN THE YEARS 1891–1892–1893.

No.	District*	Sex	Age	Date of		Condition as to Vaccination	Character of Attack	Result
				Rash	Removal to Hospital			
	1891							
1	Cheetham	M	19	8 II	10 II			Recovered
2	St. George's	M		20 XI	26 XI			,,
	1892							
1	Cheetham	F	10	3 III	7 III	Unvaccinated	C	,,
2	*Salford*	F	2	15 III	16 III	Unvaccinated	C	,,
3	Cheetham	F	18	20 III	20 III	2 Good	D	,,
4	*Salford*	M	27	19 III	20 III	2 Cics.	D	,,
5	Newton Heath ...	M	20	30 III	1 IV	4 Good	M	,,
6	St. George's	M	18	5 IV	6 IV	3 Scars	D	,,
7	Newton Heath ...	F	19	13 IV	12 IY	2 Scars	D	,,
8	Central	M	35	13 VIII	17 VIII	2 Good	D	,,
9	Cheetham	M	56	22 VIII	24 VIII	3 Good	S C	,,
10	*Failsworth*.........	M	14	22 VIII	25 VIII	4 Good	M	,,
11	,, ...	F	17	22 VIII	25 VIII	3 Good	D	,,
12	,, ...	F	3	22 VIII	25 VIII	Unvaccinated	C	,,
13	,, ...	F	35	23 VIII	26 VIII	1 Good	D	,,
14	,, ...	F	42	25 VIII	27 VIII	1 Mod.	C	,,
15	,, ...	M	25	26 VIII	27 VIII	3 Good	D	,,
16	,, ...	M	15	26 VIII	27 VIII	2 Good	D	,,
17	,, ...	M	65	25 VIII	30 VIII	3 Mod. Good	D	,,
18	,, ...	M	24	28 VIII	31 VIII	4 Good	D	,,
19	,, ...	M	58	6 IX	6 IX	2 Mod.	D	,,
20	,, ...	F	39	7 IX	7 IX	1 V. Poor	H	Died
21	,, ...	M	25	7 IX	7 IX	2 Good	D	Recovered
22	,, ...	F	51	9 IX	9 IX	2 Mod.	D	,,
23	St. George's	M	28	9 IX	10 IX	2 Mod.	D	,,
24	,, ...	M	26	10 IX	11 IX	Unvaccinated	C	,,
25	,, ...	M	25	10 IX	13 IX	2 V. Good	D	,,
26	,, ...	F	18	12 IX	14 IX	3 Mod.	D	,,
27	,, ...	F	13	14 IX	16 IX	4 Mod.	M	,,
28	*Salford*	M	15	17 III	18 IX	2 Good	D	,,
29	Cheetham	M	51	18 IX	19 IX	1 Mod.	M. Highly M'difi'd	,,
30	Newton Heath ...	M	34	23 IX	26 IX	2 Good	D	,,
31	*Urmston*............	F	7	15 X	27 IX	Vacc. first time Oct. 8, Susc. in 2 places	M	,,
32	*Failsworth*.........	M	2	...	27 IX	Unvaccinated	C	Died
33	Newton Heath ...	M	26	28 IX	28 IX	3 Fair	D	Recovered
34	St. George's	F	44	29 IX	30 IX	2 Good	D	,,
35	,, ...	F	29	28 IX	1 X	4 Fair	C	,,
36	,, ...	F	15	29 IX	2 X	2 Good	D	,,
37	,, ...	F	4	1 X	2 X	Unvaccinated	C	Died
38	,, ...	M	40	2 X	2 X	4 Mod.	D	Recovered
39	,, ...	M	20	2 X	2 X	2 Good 1 Mod.	D	,,
40	Cheetham	F	51	2 X	3 X	1 Poor	D	,,
41	,, ...	M	34	4 X	4 X	1 Good	D	,,
42	Newton Heath ...	M	4	30 IX	4 X	Unvaccinated	C	,,
43	St. George's	M	22	12 X	13 X	4 Fair	C	,,
44	,, ...	M	28	12 X	12 X	2 Good	D	,,
45	Newton Heath ...	M	17	14 X	15 X	Unvaccinated	C	,,

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TABLE R—*continued.*

No.	District*	Sex	Age	Date of		Condition as to Vaccination	Character of Attack	Result
				Rash	Removal to Hospital			
46	*Bedford Leigh*	M	22	14 X	15 X	3 Mod.	S C	Recovered
47	Bradford	F	23	16 X	17 X	3 Good	D	,,
48	Newton Heath	M	32	16 X	19 X	Doubtful	M	,,
49	,,	M	21	20 X	21 X	4 Good	M	,,
50	,,	F	25	19 X	22 X	3 Good	M	,,
51	*Withington*	M	30	23 X	25 X	3 Good	M	,,
52	*Failsworth*	F	17	25 X	26 X	1 Mod.	D	,,
53	Newton Heath	M	23	3 XI	3 XI	1 Good	D	,,
54	St. George's	F	20	16 X	6 XI	3 Mod.	D	,,
55	,,	F	29	31 X	6 XI	3 Good	D	,,
56	,,	M	31	1 XI	6 XI	2 Mod.	D	,,
57	,,	F	49	3 XI	7 XI	1 Good	D	,,
58	Newton Heath	M	25	5 XI	6 XI	4 Mod.	M	,,
59	,,	M	30	4 XI	8 XI	Unvaccinated	S C	,,
60	,,	M	42	9 XI	11 XI	2 Mod.	D	,,
61	,,	F	14	11 XI	12 XI	3 Fair	M	,,
62	Ancoats	M	24	15 XI	19 XI	4 Good	M	,,
63	Newton Heath	F	16	23 XI	25 XI	3 Faint	M	,,
64	,,	M	13	23 XI	25 XI	3 Faint	D	,,
65	,,	F	4	27 XI	29 XI	Unvaccinated	D	,,
66	,,	M	28	29 XI	1 XII	4 Good	M	Died
67	Ancoats	F	20	1 XII	4 XII	3 Faint	D	Recovered
68	St. George's	M	19	2 XII	4 XII	Unvaccinated	D	,,
69	,,	M	25	3 XII	4 XII	4 Faint	C	,,
70	Ancoats	M	22	5 XII	5 XII	4 Fair	M	,,
71	Central	M	41	3 XII	5 XII	3 Fair	S C	,,
72	Newton Heath	F	35	2 XII	5 XII	3 Faint	M	,,
73	St. George's	F	27	3 XII	6 XII	2 Good	M	,,
74	Newton Heath	M	38	2 XII	6 XII	2 Faint	C	,,
75	Gorton	M	12	2 XII	6 XII	Unvaccinated	C	,,
76	St. George's	M	34	4 XII	8 XII	1 Fair	D	,,
77	,,	F	47	7 XII	8 XII	No Marks	C	,,
78	Hulme	M	27	7 XII	11 XII	3 Fair	D	,,
79	Newton Heath	M	27	11 XII	12 XII	4 Faint	D	,,
80	St. George's	F	33	5 XII	13 XII	3 Poor	D	,,
81	,,	M	29	13 XII	15 XII	2 Good	D	,,
82	Hulme	M	25	12 XII	15 XII	3 Fair	S C	,,
83	,,	M	29	11 XII	15 XII	Unvaccinated	C	,,
84	St. George's	M	31	15 XII	16 XII	2 Fair	C	,,
85	,,	F	14	16 XII	16 XII	4 Good	D	,,
86	Ancoats	F	18	16 XII	17 XII	4 Fair	D	,,
87	Central	M	38	16 XII	17 XII	3 Poor	D	,,
88	,,	M	18	16 XII	17 XII	2 Fair	D	,,
89	St. George's	M	29	16 XII	17 XII	2 Fair	D	,,
90	,,	M	40	16 XII	17 XII	2 Poor	D	,,
91	Newton	M	33	16 XII	17 XII	2 Fair	C	,,
92	*Failsworth*	M	30	17 XII	17 XII	3 Good	S C	,,
93	Central	M	28	18 XII	18 XII	2 Poor	D	,,
94	,,	F	13	18 XII	18 XII	4 Fair	M	,,
95	,,	M	45	17 XII	19 XII	3 Poor	D	,,
96	St. George's	M	31	17 XII	19 XII	3 Fair	D	,,
97	,,	M	30	19 XII	19 XII	2 Mod.	D	,,
98	Newton Heath	F	34	17 XII	19 XII	2 Poor	C	,,
99	,,	M	21	18 XII	19 XII	1 Good	D	,,
100	Gorton	M	68	18 XII	19 XII	2 Mod.	M	,,
101	,,	M	33	18 XII	19 XII	Unvaccinated	C	,,
102	,,	M	6	19 XII	19 XII	Unvaccinated	D	,,
103	,,	F	7	19 XII	19 XII	Unvaccinated	S C	,,
104	,,	M	20	19 XII	19 XII	1 Poor	D	,,

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TABLE R—*continued.*

No.	District*	Sex	Age	Date of		Condition as to Vaccination	Character of Attack	Result
				Rash	Removal to Hospital			
105	Central	M	17	18 XII	20 XII	4 Mod.	M	Recovered
106	St. George's	M	25	16 XII	20 XII	2 Good	M	,,
107	,, ...	F	22	19 XII	21 XII	4 Poor	D	,,
108	Newton Heath ...	F	27	21 XII	22 XII	1 Good	M	,,
109	*Salford*	M	31	22 XII	22 XII	3 Poor	C	,,
110	Hulme	M	16	23 XII	23 XII	Unvaccinated	C	,,
111	Central	F	71	22 XII	24 XII	Unvaccinated	S C	,,
112	Newton	M	21	24 XII	24 XII	1 Fair	D	,,
113	*Salford*	F	35	23 XII	24 XII	1 Good	D	,,
114	Ancoats	F	30	19 XII	25 XII	3 Poor	D	,,
115	Gorton	F	27	24 XII	Not removed	2 Good	...	,,
116	Hulme	M	33	23 XII	25 XII	3 Poor	C	,,
117	,, ...	M	12	23 XII	26 XII	4 Fair	M	,,
118	,, ...	M	14	24 XII	26 XII	3 Fair	D	,,
119	,, ...		16	25 XII	26 XII	4 Fair	S C	,,
120	,, ...		20	23 XII	27 XII	1 Fair	M	,,
121	,, ...	F	33	27 XII	27 XII	2 Good	M	,,
122	St. George's	M	51	26 XII	28 XII	3 Poor	D	,,
123	Hulme	F	10	24 XII	28 XII	3 Fair	M	,,
124	,, ...	M	30	25 XII	26 XII		No record	,,
125	St. George's	M	30	27 XII	29 XII	4 Good	M	,,
126	Newton Heath ...	F	24	5 I 1893	29 XII	2 Marks	M	,,
127	Hulme	M	8	25 XII	29 XII	Unvaccinated	D	,,
128	*Salford*	M	39	28 XII	29 XII	3 Good	S C	,,
129	Newton Heath ...	M	35	28 XII	30 XII	2 Faint	C	,,
130	,, ...	M	27	28 XII	30 XII	4 Fair	D	,,
131	Ancoats	M	17	29 XII	30 XII	2 Good	D	,,
132	Newton Heath ...	M	41	29 XII	31 XII	1 Fair	D	,,
133	Hulme	M	18	30 XII	31 XII	4 Good	D	,,
134	,, ...	M	23	30 XII	31 XII	Unvaccinated	C	Died
	1893							
135	St. George's	M	12	30 XII	1 I	Unvaccinated	S C	Recovered
136	,, ...	M	34	28 XII	2 I	3 Fair	D	,,
137	Central	M	29	26 XII	3 I	2 Good	M	,,
138	Hulme	M	43	31 XII	3 I	1 Poor	D	,,
139	St. George's	F	16	3 I	4 I	4 Good	D	,,
140	Newton Heath ...	M	22	1 I	4 I	4 Good	D	,,
141	,, ...	M	22	1 XI	4 I	Unvaccinated	C	,,
142	Central	F	10	4 I	5 I	Vacc. in Infancy. Re-vacc. 3/1/93	M	,,
143	Chorlton-on-Med.	M	50	29 XII	5 I	2 Poor	D	,,
144	Ancoats	F	25	4 I	6 I	3 Good	D	,,
145	St. George's	M	50	30 XII	6 I	2 Poor	C	Died
146	Cheetham	M	36	6 I	6 I	3 Fair	D	Recovered
147	Newton Heath ...	M	30	29 XII	6 I	3 Poor	D	,,
148	,, ...	M	14	5 I	6 I	1 Good	D	,,
149	,, ...	F	13	6 I	6 I	3 Good	M	,,
150	Ardwick	M	24	1 I	6 I	4 Good	M	,,
151	Ancoats	M	18	4 I	7 I	4 Good	D	,,
152	Central	M	44	5 I	7 I	3 Poor	D	,,
153	St. George's	M	24	6 I	9 I	4 Good	D	,,
154	Harpurhey	M	7	6 I	7 I	Uncertain	D	,,
155	Newton Heath...	F	25	8 I	8 I	2 Good	D	,,
156	Ancoats	F	15	8 I	9 I	1 Fair	C	,,
157	Central	M	44	8 I	9 I	1 Poor	D	,,
158	St. George's	M	25	9 I	9 I	2 Poor	D	,,
159	,, ...	M	11	9 I	9 I	Unvaccinated	C	,,

* Districts printed in Italics are outside the City of Manchester

TABLE R—*continued.*

No.	District *	Sex	Age	Date of Rash	Date of Removal to Hospital	Condition as to Vaccination	Character of Attack	Result
160	Newton Heath ...	M	41	9 I	9 I	2 Good	M	Recovered
161	,, ...	F	48	9 I	9 I	2 Fair	D	,,
162	Hulme	F	44	8 I	9 I	Unvaccinated	C	,,
163	Chorlton-on-Med.	M	22	7 I	10 I	3 Good	M	,,
164	Ancoats	M	35	9 I	10 I	3 Poor	C	Died
165	,, ...	M	18	9 I	10 I	4 Fair	C	,,
166	St. George's	M	26	10 I	10 I	1 Poor	C	Recovered
167	Chorlton-on-Med.	M	33	4 I	Nursed	at home	...	,,
168	Newton Heath ...	M	34	9 I	10 I	4 Poor	C	Died
169	,, ...	M	33	9 I	10 I	2 Good	C	,,
170	St. George's	M	35	10 I	10 I	3 Poor	D	Recovered
171	,, ...	M	42	10 I	10 I	4 Fair	C	,,
172	,, ...	M	10	7 I	10 I	4 Good	M	,,
173	Newton Heath...	F	40	10 I	10 I	Uncertain	C	Died
174	*Salford*	F	7	8 I	10 I	4 Vacc. success for 1st time, 30/12/92	D	Recovered
175	*Failsworth*	F	27	9 I	10 I	Unvaccinated	C	,,
176	Ancoats	M	10	5 I	10 I	4 Poor	M	,,
177	,, ...	M	44	10 I	11 I	1 Good	D	,,
178	St. George's	M	18	10 I	10 I	4 Good	M	,,
179	Newton Heath...	M	23	10 I	11 I	4 Fair	M	,,
180	,, ...	M	30	10 I	11 I	5 Fair	D	,,
181	,, ...	M	22	10 I	11 I	4 Good	D	,,
182	Ardwick............	M	48	10 I	11 I	Uncertai	C	,,
183	Hulme	F	19	8 I	11 I	4 Good	M	,,
184	Ancoats	M	20	12 I	12 I	1 V. Poor	D	,,
185	,, ...	F	19	10 I	12 I	4 Good	D	,,
186	St. George's	M	46	8 I	12 I	4 Poor	D	,,
187	,, ...	F	29	11 I	12 I	1 Good	D	,,
188	,, ...	F	34	10 I	12 I	1 Poor	D	,,
189	,, ...	F	11	10 I	12 I	2 Fair	D	,,
190	,, ...	M	25	10 I	12 I	1 Good	D	,,
191	,, ...	F	27	8 I	12 I	2 Good	D	,,
192	Newton Heath...	M	14	7 I	12 I	No marks. Said to be vaccinated	C	,,
193	,, ...	M	44	9 I	12 I	2 Fair	D	,,
194	,, ...	M	42	10 I	12 I	3 Good	D	,,
195	,, ...	M	34	11 I	12 I	4 Fair	M	,,
196	*Failsworth*.........	M	16	10 I	12 I	3 Fair	D	,,
197	St. George's	M	18	12 I	13 I	2 Good	M	,,
198	,, ...	F	11	11 I	13 I	No marks. Said to be vaccinated	S C	,,
199	,, ...	M	45	13 I	13 I	2 V. Good	C	,,
200	,, ...	M	9	10 I	13 I	4 Good	M	,,
201	,, ...	M	10	10 I	13 I	4 Fair	M	,,
202	,, ...	F	31	10 I	13 I	2 V. Poor	D	,,
203	Cheetham	M	42	12 I	14 I	2 Fair	C	Died
204	Newton Heath...	F	14	11 I	13 I	3 Good	D	Recovered
205	Moston	F	30	13 I	13 I	2 Good	D	,,
206	Hulme	F	29	11 I	13 I	1 V. Poor	D	,,
207	,, ...	F	22	10 I	13 I	1 Fair	C	,,
208	,, ...	M	26	10 I	13 I	2 V. Good	D	,,
209	,, ...	F	18	13 I	13 I	2 Fair	M	,,
210	,, ...	M	27	13 I	13 I	3 Good	D	,,
211	Ancoats	F	11	10 I	14 I	1 V. Good	D	,,
212	Central	M	30	13 I	13 I	2 Good	C	,,
213	St. George's	M	20	13 I	14 I	3 Good	D	,,
214	Ancoats	M	42	14 I	14 I	2 Good	D	,,
215	St. George's	M	36	14 I	14 I	2 Fair	C	Died

* Districts printed in Italics are outside the City of Manchester.

TABLE R—*continued.*

No.	District*	Sex	Age	Date of		Condition as to Vaccination	Character of Attack	Result
				Rash	Removal to Hospital			
216	St. George's	F	20	13 I	14 I	No Marks	C	Recovered
217	,, ...	F	30	10 I	14 I	2 Fair	D	,,
218	,, ...	F	21	9 I	14 I	Uncertain	D	,,
219	Harpurhey.........	M	31	13 I	14 I	2 V. Good	D	,,
220	,, ...	M	34	13 I	14 I	1 Poor	C	,,
221	Newton Heath ...	M	11	14 I	14 I	3 Fair	M	,,
222	,, ...	M	25	14 I	14 I	2 V. Poor	D	,,
223	,, ...	F	26	14 I	14 I	1 Fair	D	,,
224	,, ...	M	26	11 I	14 I	3 V. Good	D	,,
225	Ancoats	F	22	13 I	15 I	4 Good	D	,,
226	,, ...	M	10	11 I	15 I	No Marks	S C	,,
227	St. George's	F	20	12 I	15 I	4 Fair	M	,,
228	Newton Heath ...	F	9	14 I	15 I	Vacc. uncertain	D	,,
229	,, ...	F	13	11 I	15 I	2 Fair	D	,,
230	,, ...	M	42	14 I	15 I	2 Fair	C	,,
231	*Salford*	M	29	15 I	15 I	2 Good	D	,,
232	*Stretford*............	F	16	9 I	15 I	2 V. Good	D	,,
233	St. George's	M	25	16 I	15 I	2 Poor	D	,,
234	,, ...	M	22	16 I	16 I	4 Good	D	,,
235	,, ...	M	31	14 I	16 I	3 Good	D	,,
236	,, ...	M	32	14 I	16 I	2 Fair	M	,,
237	,, ...	M	25	15 I	16 I	1 Poor	D	,,
238	Newton Heath ...	M	20	14 I	16 I	4 Good	D	,,
239	Chorlton-on-Med	F	12	16 I	16 I	1 Good	S C	,,
240	Hulme	F	24	XII	16 I	3 Good	D	,,
241	Ancoats	M	18	15 I	17 I	Unvaccinated	C	,,
242	St. George's	M	30	16 I	16 I	2 Good	M	,,
243	,, ...	M	49	17 I	17 I	2 Fair	D	,,
244	,, ...	F	23	15 I	17 I	No Marks	C	Died
245	,, ...	M	22	17 I	17 I	4 V. Good	M	Recovered
246	Hulme	M	18	16 I	17 I	1 Poor	C	,,
247	*Failsworth*	F	2	10 I	17 I	Unvaccinated	S C	,,
248	,, ...	M	4	11 I	17 I	Unvaccinated	C	,,
249	,, ...	F	5	10 I	17 I	Unvaccinated	D	,,
250	Ancoats	M	24	18 I	18 I	3 Fair	C	,,
251	,, ...	F	34	18 I	18 I	5 Poor	C	,,
252	Central	F	7wks	15 I	18 I	4 Vacc. pus 8 days before Eruption	D	,,
253	,, ...	F	24	17 I	18 I	4 Fair	M	,,
254	St. George's	F	45	13 I	18 I	4 Poor	D	,,
255	,, ...	F	25	17 I	18 I	3 Good	D	,,
256	Newton Heath ...	F	16	17 I	18 I	3 Vacc. pus 10 days before Eruption	M	,,
257	Ancoats	M	26	19 I	19 I	3 Good	M	,,
258	,, ...	F	18	16 I	19 I	4 Good	D	,,
259	Central	M	25	18 I	19 I	4 Good	M	,,
260	St. George's	M	34	19 I	19 I	No Marks	M	,,
261	,, ...	M	17	19 I	19 I	1 Good	M	,,
262	Newton Heath ...	M	21	17 I	19 I	4 Good	M	,,
263	Hulme	M	17	17 I	19 I	2 Fair	D	,,
264	Ancoats	M	32	20 I	20 I	2 Fair	D	,,
265	St. George's	M	18	19 I	19 I	4 Good	S C	,,
266	Chorlton-on-Med.	M	42	19 I	20 I	2 Fair	C	,,
267	*Salford*	M	20	18 I	20 I	No Marks	S C	,,
268	,, ...	F	32	17 I	20 I	2 Good	C	,,
269	Ancoats	M	16	20 I	21 I	1 Good	D	,,
270	,, ...	M	16	20 I	21 I	3 Good	S C	,,
271	,, ...	M	22	21 I	21 I	1 V. Good	M	,,
272	Central	M	41	17 I	20 I	2 Good	M	,,

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TABLE R—*continued.*

No.	District *	Sex	Age	Date of		Condition as to Vaccination	Character of Attack	Result
				Rash	Removal to Hospital			
273	Central	M	21	20 I	21 I	3 Good	D	Recovered
274	St. George's	M	38	20 I	21 I	2 Fair	M	,,
275	,,	M	18	21 I	21 I	2 Good	D	,,
276	Cheetham	M	28	20 I	21 I	1 Good	D	,,
277	Newton Heath	F	16	18 I	21 I	4 Fair	M	,,
278	Chorlton-on-Med.	F	7	20 I	21 I	3 V. Poor	M	,,
279	St. George's	F	7dys.	20 I	22 I	Unvaccinated	C	Died
280	,,	F	25	21 I	22 I	3 Good	C	Recovered
281	,,	M	26	21 I	22 I	2 Good	D	,,
282	Newton Heath	F	23	21 I	22 I	2 Good	D	,,
283	Ancoats	M	14	22 I	23 I	3 Fair	S C	,,
284	,,	M	12	22 I	23 I	3 Good	S C	,,
285	St. George's	F	30	21 I	23 I	4 Fair	D	,,
286	,,	F	5	23 I	Nursed	at Home	...	Died
287	,,	M	11	23 I	23 I	4 Good	M	Recovered
288	,,	F	19	20 I	23 I	Uncertain	D	,,
289	,,	M	44	18 I	Nursed	at Home 3 Good	...	Died
290	Newton Heath	M	33	21 I	23 I	2 V. Good	M	Recovered
291	Moston	F	29	22 I	23 I	1 Good	D	,,
292	,,	M	3	22 I	23 I	Vacc. for 1st time successfully in 4 places, 17/1/93	D	,,
293	Ardwick	M	20	23 I	23 I	3 Good	D	,,
294	Ancoats	M	25	23 I	24 I	2 V. Poor	M	,,
295	Newton Heath	F	24	23 I	24 I	4 Good	M	,,
296	*Pendlebury*	F	27	21 I	24 I	2 Poor	D	,,
297	*Moss Side*	F	26	22 I	24 I	3 Fair	S C	,,
298	Central	F	19	20 I	26 I	3 Fair	D	,,
299	,,	M	53	25 I	25 I	Uncertain	D	,,
300	St. George's	M	15	24 I	25 I	Uncertain	D	,,
301	,,	M	29	25 I	25 I	3 Fair	M	,,
302	Moston	F	32	24 I	25 I	3 Fair	C	,,
303	Newton Heath	M	18	24 I	25 I	2 Good	M	,,
304	,,	F	16	24 I	25 I	2 Fair	M	,,
305	Moston	F	3	25 I	25 I	Unvaccinated	C	,,
306	,,	F	10 Ds	...	Nursed	at Home	...	Died
307	Ancoats	F	8	26 I	26 I	No Marks Vacc. 24/1/93	C	,,
308	,,	F	6	25 I	26 I	2 Good	M	Recovered
309	Central	F	19	25 I	26 I	3 Good	M	,,
310	St. George's	M	33	25 I	25 I	2 V. Good	M	,,
311	,,	M	11	25 I	26 I	Uncertain	D	,,
312	Beswick	F	38	23 I	26 I	2 Good	D	,,
313	Ardwick	M	15	25 I	26 I	3 Fair	D	,,
314	Chorlton-on-Med.	M	21	26 I	26 I	3 Good	M	,,
315	,,	F	24	23 I	Nursed	at Home	...	,,
316	*Withington*	M	40	26 I	26 I	Unvaccinated	H	Died
317	Ancoats	M	44	26 I	27 I	1 Fair	C	Recovered
318	,,	M	39	23 I	27 I	2 Good	M	,,
319	,,	M	30	26 I	27 I	1 Poor	D	,,
320	St. George's	M	27	27 I	27 I	2 Good	D	,,
321	,,	M	30	27 I	27 I	2 Fair	D	,,
322	,,	M	17	25 I	27 I	2 V. Good	D	,,
323	,,	F	5 wks	25 I	27 I	Vacc. successfully in 4 places, 19/1/93 Eruption, 26/1/93	D	,,
324	Cheetham	M	22	26 I	27 I	Unvaccinated	C	Died
325	Newton Heath	F	20	26 I	27 I	2 Poor	D	Recovered
326	,,	F	15	27 I	27 I	4 Fair	M	,,

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TABLE R—*continued.*

No.	District *	Sex	Age	Date of		Condition as to Vaccination	Character of Attack	Result
				Rash	Removal to Hospital			
327	Chorlton-on-Med.	F	17	26 I	27 I	3 Fair	M	Recovered
328	Ancoats	F	13	26 I	28 I	No Marks	C	,,
329	St. George's	M	69	27 I	27 I	No Marks	D	,,
330	,,	M	27	27 I	27 I	3 Good	D	,,
331	,,	M	35	28 I	28 I	1 Good	D	,,
332	,,	M	24	28 I	28 I	1 Fair	C	,,
333	,,	F	28	28 I	28 I	3 Good	H	Died
334	,,	M	24	27 I	28 I	3 Good	M	Recovered
335	Cheetham	M	20	27 I	28 I	2 V. Poor	D	,,
336	*Failsworth*	M	24	27 I	28 I	4 Good	D	,,
337	Ardwick	M	28	27 I	28 I	3 Good	D	,,
338	Central	M	26	21 I	28 I	2 Fair	M	,,
339	Ancoats	M	5	28 I	29 I	1 Good	M	,,
340	Central	F	34	29 I	29 I	2 Good	D	,,
341	St. George's	M	27	29 I	29 I	1 Good	D	,,
342	,,	M	28	28 I	29 I	3 Good	D	,,
343	Newton Heath	F	36	28 I	29 I	2 V. Faint	D	,,
344	Moston	M	2	27 I	29 I	Vacc. 24/1/93	D	Died
345	Ancoats	F	24	28 I	30 I	4 Fair	D	Recovered
346	Central	M	35	29 I	30 I	2 Fair	D	,,
347	,,	M	32	30 I	30 I	2 Fair	D	,,
348	St. George's	M	39	30 I	30 I	3 Fair	C	Died
349	,,	M	69	30 I	30 I	No Marks	H	,,
350	,,	F	23	29 I	30 I	4 V. Good	M	Recovered
351	,,	F	20	28 I	30 I	4 Good	S C	,,
352	*Failsworth*	M	53	26 I	28 I	2 V. Fair	M	,,
353	,,	F	23	No Date	28 I	4 Good	M	,,
354	,,	F	15	26 I	28 I	2 Good	D	,,
355	,,	F	10	25 I	28 I	2 Good	M	,,
356	Newton Heath	M	2	14 I	30 I	Unvaccinated	D	,,
357	,,	F	9	25 I	30 I	Unvaccinated	D	,,
358	,,	F	7	28 I	30 I	Unvaccinated	D	,,
359	Rusholme	M	41	29 I	30 I	1 V. Good	S C	,,
360	Hulme	F	24	29 I	30 I	No Marks	C	,,
361	*Failsworth*	M	36	26 I	30 I	2 V. Good	D	,,
362	Ancoats	M	34	30 I	31 I	1 Fair	D	,,
363	,,	M	28	30 I	31 I	No Marks	S C	,,
364	,,	F	28	30 I	31 I	2 Good	D	,,
365	,,	F	20	29 I	31 I	2 Faint	D	,,
366	Central	M	19	31 I	31 I	1 Faint	C	,,
367	St. George's	F	27	30 I	31 I	3 Good	M	,,
368	,,	F	11	30 I	31 I	Unvaccinated	C	,,
369	Newton Heath	F	28	28 I	30 I	2 Good	D	,,
370	,,	F	17	28 I	31 I	3 Good	M	,,
371	,,	M	19	30 I	31 I	4 Good	D	,,
372	*Moss Side*	M	38	28 I	31 I	2 Fair	D	,,
373	*Failsworth*	F	33	31 I	31 I	3 Fair	D	,,
374	,,	M	4	30 I	31 I	Unvaccinated	D	,,
375	,,	M	21	...	31 I	4 V. Good	M	,,
376	St. George's	M	25	1 II	1 II	2 Faint	C	,,
377	Newton Heath	M	14	1 II	1 II	Unvaccinated	C	,,
378	*Failsworth*	F	26	31 I	1 II	Unvaccinated	D	,,
379	,,	M	17	19 I	1 II	4 V. Fair	M	,,
380	Ancoats	M	17	31 I	2 II	Unvaccinated	C	Died
381	Central	M	33	1 II	2 II	2 Good	D	Recovered
382	St. George's	M	38	1 II	2 II	1 Good	D	,,
383	,,	M	57	2 II	2 II	1 Faint	M	,,
384	,,	M	38	2 II	2 II	No Marks	C	,,
385	,,	M	30	3 II	3 II	2 Faint	S C	,,

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TABLE R—*continued.*

No.	District *	Sex	Age	Date of		Condition as to Vaccination	Character of Attack	Result
				Rash	Removal to Hospital			
386	Newton Heath ...	M	22	1 II	3 II	Unvaccinated	C	Recovered
387	Bradford............	F	3	3 II	3 II	Unvaccinated	S C	,,
388	Chorlton-on-Med.	M	35	3 II	3 II	1 Fair	D	,,
389	Newton Heath ...	F	43	1 II	4 II	2 Fair	M	,,
390	,, ...	F	44	4 II	5 II	2 Faint	S C	,,
391	Central	M	32	5 II	6 II	1 Good	D	,,
392	,, ...	M	42	4 II	6 II	2 Poor	D	,,
393	St. George's	M	2	6 II	6 II	Unvaccinated	D	,,
394	,, ...	M	61	6 II	6 II	Uncertain	D	,,
395	Newton Heath ...	F	14	5 II	6 II	Unvaccinated	S C	,,
396	Central	M	25	7 II	7 II	4 Good	M	,,
397	St. George's	M	24	7 II	7 II	4 Good	M	,,
398	Cheetham	M	54	6 II	8 II	3 Mod.	D	,,
399	Newton Heath ...	F	28	7 II	8 II	No Marks	D	,,
400	,, ...	M	24	8 II	8 II	2 Poor	D	,,
401	Ancoats	M	24	6 II	10 II	3 V. Fair	D	,,
402	,, ...	F	26	10 II	10 II	3 Good	D	,,
403	St. George's	F	25	9 II	10 II	4 Mod.	D	,,
404	Beswick............	M	8	7 II	10 II	3 Good	M	,,
405	*Didsbury*	M	34	9 II	10 II	1 Good	M	,,
406	Ancoats	F	69	11 II	11 II	1 Mod.	M	,,
407	Central	F	13	10 II	11 II	4 Faint	M	,,
408	,, ...	M	15	11 II	11 II	3 Faint	D	,,
409	St. George's	M	19	11 II	11 II	4 Good	D	,,
410	Newton Heath ...	F	11	11 II	12 II	Unvaccinated	C	Died
411	Ancoats	M	44	12 II	13 II	2 Mod.	D	Recovered
412	Central	M	38	13 II	13 II	4 Faint	D	,,
413	,, ...	M	28	12 II	13 II	1 Mod.	D	,,
414	Crumpsall	M	42	13 II	13 II	2 Good	D	,,
415	*Failsworth*	F	33	13 II	13 II	1 Good	C	,,
416	Central	M	17	14 II	14 II	3 Faint	D	,,
417	St. George's	M	30	14 II	14 II	3 Fair	S C	,,
418	Crumpsall	M	27	12 II	13 II	Unvaccinated	C	Died
419	West Gorton......	M	62	13 II	14 II	Uncertain	C	Recovered
420	Ancoats	M	29	15 II	15 II	2 Fair	D	,,
421	St. George's	M	37	14 II	15 II	1 Fair	C	,,
422	Harpurhey.........	M	36	13 II	15 II	2 Fair	D	,,
423	Newton	M	34	14 II	15 II	Unvaccinated	H	Died
424	Ancoats	M	23	15 II	15 II	2 Mod.	D	Recovered
425	Central	M	42	13 II	14 II	1 Faint	D	,,
426	Cheetham	M	20	16 II	17 II	2 Good	D	,,
427	Ardwick............	M	25	17 II	17 II	Unvaccinated	C	,,
428	Harpurhey.........	M	42	18 II	18 II	2 Good	D	,,
429	Chorlton-on-Med.	M	28	18 II	18 II	2 Fair	D	,,
430	Newton Heath ...	M	23	18 II	19 II	1 Mod.	D	,,
431	Moston	M	37	18 II	19 II	1 Mod.	C	,,
432	Chorlton-on-Med.	M	21	20 I	19 II	3 Faint	M	,,
433	Ancoats	M	25	19 II	20 II	3 Mod.	S C	,,
434	,, ...	M	26	20 II	20 II	Unvaccinated	C	,,
435	,, ...	M	20	17 II	20 II	3 Mod.	D	,,
436	St. George's	M	46	20 II	20 II	1 Faint	D	,,
437	,, ...	F	26	20 II	20 II	4 Mod.	D	,,
438	Cheetham	M	45	20 II	20 II	3 Mod.	S C	Died
439	Ardwick	M	47	19 II	20 II	1 Good	D	Recovered
440	Openshaw	M	37	19 II	20 II	Uncertain	C	,,
441	Chorlton-on-Med.	M	32	20 II	20 II	1 Good	S C	,,
442	Ancoats	M	13	18 II	21 II	2 Good	D	,,
443	,, ...	M	26	19 II	21 II	Unvaccinated	S C	,,
444	Central	M	35	21 II	21 II	1 Good, 1 Fair	D	,,

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TABLE R—*continued*

No.	District *	Sex	Age	Date of		Condition as to Vaccination	Charac-t r of Attack	Result
				Rash	Removal to Hospital			
445	St. George's	M	25	21 II	21 II	3 Fair	D	Recovered
446	Moston	F	14	18 II	21 II	4 Good	M	,,
447	,, ...	F	23	18 II	21 II	3 Mod.	D	,,
448	Chorlton-on-Med.	M	30	20 II	21 II	1 Faint	D	,,
449	Hulme	M	42	19 II	21 II	2 Good	M	,,
450	*Moss Side*	M	21	17 II	21 II	1 V. Good	D	,,
451	St. George's	M	15	20 II	22 II	4 Mod.	M	,,
452	,, ...	F	33	20 II	22 II	5 Mod.	D	,,
453	Blackley	M	45	21 II	22 II	No Marks	D	,,
454	St. George's	M	15	21 II	23 II	4 Mod.	M	,,
455	Newton Heath ...	M	19	23 II	23 II	2 Good	D	,,
456	Central	M	21	20 II	24 II	2 Mod.	M	,,
457	Crumpsall	M	63	22 II	24 II	Uncertain Vacc. 16/2/93	D	,,
458	Newton Heath ...	M	15	22 II	24 II	2 Mod.	M	,,
459	*Moss Side*	M	48	23 II	24 II	1 Poor	D	,,
460	Ancoats	F	11	24 II	25 II	3 Good Re-Vac.20/2/93	M	,,
461	St. George's	M	31	25 II	25 II	3 Faint	D	,,
462	Beswick	M	26	22 II	25 II	Unvaccinated	C	,,
463	*Moss Side*	M	20	24 II	25 II	3 Good	D	,,
464	Ancoats	M	35	22 II	26 II	2 Good	D	,,
465	St. George's	M	18	26 II	26 II	No Marks	D	,,
466	,, ...	M	46	20 II	Nursed	at Home		,,
467	Cheetham	M	28	25 II	27 II	3 Mod.	M	,,
468	*Failsworth*	M	42	25 II	27 II	2 Mod.	D	,,
469	St. George's	M	27	1 III	1 III	1 Good	D	,,
470	,, ...	F	38	28 II	1 III	2 Mod.	M	,,
471	Newton Heath ...	M	40	25 II	1 III	2 Mod.	M	,,
472	Central	M	34	28 II	2 III	2 Faint	D	,,
473	Ancoats	M	18	1 III	3 III	2 Mod.	D	,,
474	,, ...	M	26	2 III	4 III	1 V. Good	D	,,
475	,, ...	M	21	5 III	6 III	4 Mod.	S C	,,
476	St. George's	M	74	6 III	4 III	2 Faint	D	,,
477	,, ...	M	1	6 III	6 III	Unvaccinated	S C	Died
478	,, ...	F	25	6 III	6 III	2 Faint	D	Recovered
479	,, ...	M	24	5 III	6 III	4 Good	M	,,
480	,, ...	F	34	5 III	7 III	2 Good	D	,,
481	Openshaw	M	36	5 III	7 III	2 Good	C	,,
482	Gorton, West ...	M	30	7 III	7 III	2 V. Fair	D	,,
483	St. George's	F	25	6 III	9 III	2 V. Fair	M	,,
484	,, ...	M	44	9 III	9 III	1 Mod.	C	Died
485	Newton Heath ...	M	22	9 III	9 III	2 Good	S C	Recovered
486	,, ...	F	21	6 III	9 III	4 Faint	M	,,
487	Ardwick	F	50	9 III	9 III	2 Mod.	D	,,
488	Hulme	M	32	7 III	9 III	2 V. Good	D	,,
489	*Gorton (outer)* ...	M	8	7 III	9 III	Unvaccinated	C	,,
490	Cheetham	F	37	7 III	10 III	3 Faint	D	,,
491	Newton Heath ...	M	21	9 III	10 III	1 Mod.	D	,,
492	,, ...	F	28	9 III	10 III	3 Faint	D	,,
493	Central	M	35	10 III	11 III	2 Mod.	C	,,
494	St. George's	M	18	11 III	11 III	3 Good	M	,,
495	Hulme	M	43	10 III	11 III	1 Good	D	,,
496	,, ...	M	23	10 III	11 III	2 Mod.	D	,,
497	,, ...	M	55	10 III	11 III	No Marks	S C	,,
498	,, ...	M	63	10 III	11 III	1 Good	D	,,
499	Cheetham	M	35	3 III	12 III	2 V. Faint	D	,,
500	Crumpsall	M	20	10 III	12 III	2 Good	D	,,
501	Newton Heath ...	F	34	12 III	12 III	3 Fair	D	,,

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TABLE R—*continued.*

No.	District *	Sex	Age	Date of		Condition as to Vaccination	Character of Attack	Result
				Rash	Removal to Hospital			
502	Hulme	M	34	12 III	12 III	2 Fair	D	Recovered
503	*Swinton*	M	44	9 III	12 III	2 Faint	C	Died
504	Ancoats	M	40	12 III	13 III	1 Faint	C	Recovered
505	Central	M	23	12 III	13 III	4 Mod.	C	,,
506	,,	F	3	12 III	13 III	Unvaccinated	S C	,,
507	St. George's	M	26	12 III	12 III	...	D	,,
508	,,	M	16	11 III	13 III	4 Good	D	,,
509	Newton Heath	F	10	9 III	13 III	Unvaccinated	D	,,
510	,,	M	32	13 III	13 III	2 Good	D	,,
511	,,	M	18	11 III	13 III	4 Good	M	,,
512	Ancoats	M	38	14 III	15 III	2 Good	C	,,
513	,,	M	28	13 III	14 III	2 Faint	D	,,
514	Cheetham	M	21	14 III	14 III	1 Good	D	,,
515	Harpurhey	F	30	11 III	14 III	3 Faint	C	,,
516	Hulme	M	42	14 III	14 III	1 Good	D	,,
517	,,	M	21	14 III	14 III	3 Good	M	,,
518	,,	M	54	14 III	14 III	2 Good	M	,,
519	Chorlton-on-Med.	M	40	15 III	15 III	1 Faint	D	,,
520	Ancoats	F	25	13 III	16 III	4 V. Good	D	,,
521	,,	M	20	16 III	16 III	1 V. Good	D	,,
522	Central	M	11	16 III	16 III	Unvaccinated	D	,,
523	,,	F	1	16 III	16 III	Unvaccinated	D	,,
524	St. George's	F	23	16 III	16 III	3 V. Good	M	,,
525	Newton	F	15	16 III	16 III	4 V. Good	M	,,
526	Harpurhey	M	45	15 III	17 III	1 Mod.	C	Died
527	Newton	M	43	17 III	17 III	2 Mod.	D	Recovered
528	St. George's	F	14	19 III	18 III	2 Good 1 Mod.	M	,,
529	Central	M	34	21 III	23 III	1 Fair	D	,,
530	,,	F	20	20 III	23 III	2 Fair	S C	,,
531	Cheetham	F	35	22 III	23 III	2 Faint	D	,,
532	Newton Heath	F	45	19 III	23 III	2 Good	M	,,
533	Hulme	M	35	22 III	23 III	2 Mod.	D	,,
534	Ancoats	F	29	21 III	24 III	3 Mod.	D	,,
535	St. George's	F	12	23 III	24 III	3 Poor	S C	,,
536	,,	F	10	23 III	24 III	2 Mod.	M	,,
537	Blackley	M	18	24 III	24 III	4 Mod.	M	,,
538	*Stretford*	M	26	18 III	22 III	2 Good	M	,,
539	*Chorlton-c.-Hardy*	M	36	22 III	23 III	3 Faint	C	,,
540	*Swinton*	M	1	24 III	25 III	Unvaccinated	D	,,
541	Newton Heath	F	30	25 III	26 III	4 Mod.	M	,,
542	Central	F	32	26 III	27 III	No Marks	S C	,,
543	St. George's	M	27	27 III	26 III	Unvaccinated	C	,,
544	Chorlton-on-Med.	F	45	25 III	27 III	1 Mod.	S C	,,
545	St. George's	M	25	28 III	28 III	3 Faint	S C	,,
546	Newton Heath	M	50	27 III	28 III	2 Faint	S C	,,
547	Ancoats	M	35	29 III	29 III	1 Faint	D	,,
548	Hulme	M	36	29 III	29 III	2 Faint	D	,,
549	St. George's	F	19	30 III	30 III	3 Good	S C	,,
550	,,	M	25	29 III	30 III	3 Fair	S C	,,
551	Ancoats	M	44	31 III	31 III	6 Good	D	,,
552	Rusholme	M	18	27 III	1 IV	1 Fair	M	,,
553	,,	F	42	31 III	1 IV	3 Good	M	,,
554	*Swinton*	M	20	23 III	31 III	2 V. Good	S C	,,
555	,,	F	4	29 III	31 III	Unvaccinated	D	,,
556	*Withington*	M	31	26 III	27 III	3 Faint	D	,,
557	St. George's	M	30	3 IV	3 IV	1 Good	M	,,
558	Ancoats	F	29	2 IV	4 IV	1 Faint	C	Died
559	Hulme	M	52	4 IV	4 IV	4 Marks	C	,,
560	,,	M	33	4 IV	4 IV	1 Mark	C	,,

* Districts printed in Italics are outside the City of Manchester.

TABLE R—*continued.*

No.	District *	Sex	Age	Date of		Condition as to Vaccination	Character of Attack	Result
				Rash	Removal to Hospital			
561	Hulme	F	28	2 IV	6 IV	3 Fair	D	Recovered
562	St. George's	F	44	7 IV	7 IV	2 Good	S C	,,
563	,, ...	M	17	6 IV	7 IV	2 Mod.	D	,,
564	Harpurhey.........	M	25	5 IV	7 IV	3 Good	D	,,
565	Ancoats	M	31	5 IV	8 IV	3 Mod.	D	,,
566	Cheetham	M	44	6 IV	8 IV	3 Mod.	D	......
567	Crumpsall	M	61	8 IV	8 IV	1 Good	M	Recovered
568	Newton Heath ...	F	22	8 IV	8 IV	1 Mark	D	,,
569	*Withington*	M	38	5 IV	6 IV	2 Good	D	,,
570	*Didsbury*	M	24	1 IV	2 IV	1 Mark	D	,,
571	*Salford*	M	25	30 III	3 IV	2 Good	D	,,
572	*Withington*	M	4	31 III	3 IV	Unvaccinated	D	,,
573	*Didsbury*	F	20	24 III	4 IV	4 Good	M	,,
574	*Failsworth*	M	29	2 IV	4 IV	4 Good	D	,,
575	Newton Heath ...	F	22	9 IV	10 IV	1 Poor	D	,,
576	Rusholme	M	24	8 IV	9 IV	2 V. Faint	M	,,
577	St. George's	M	19	9 IV	10 IV	Vacc. No Marks	C	,,
578	Cheetham	M	51	9 IV	10 IV	1 Poor	D	,,
579	,, ...	M	18	8 IV	10 IV	2 Good	D	,,
580	Newton Heath ...	M	23	8 IV	10 IV	3 Mod.	D	,,
581	Central	F	40	9 IV	11 IV	1 Good	C	Died
582	St. George's	F	10	10 IV	11 IV	1 V. Faint	D	Recovered
583	,, ...	F	18	10 IV	11 IV	3 Good	D	,,
584	,, ...	M	8	10 IV	11 IV	4 Good	M	,,
585	,, ...	M	48	11 IV	11 IV	2 Faint	D	,,
586	,, ...	M	20	12 IV	11 IV	4 V. Good	D	,,
587	,, ...	M	15	11 IV	12 IV	Unvaccinated	C	,,
588	Cheetham	M	24	10 IV	12 IV	4 Mod.	M	,,
589	,, ...	M	37	12 IV	12 IV	4 Faint	C	Died
590	Central	M	26	13 IV	13 IV	1 Faint	C	Recovered
591	,, ...	M	32	12 IV	13 IV	3 Mod.	D	,,
592	St. George's	F	39	13 IV	14 IV	4 Mod.	D	,,
593	Central	M	45	12 IV	15 IV	4 Poor	D	,,
594	St. George's	M	32	14 IV	15 IV	2 Mod.	D	,,
595	*Withington*	F	28	13 IV	13 IV	Vacc. for first time, April 3, 2 places	M	,,
596	,, ...	F	24	13 IV	13 IV	Vacc. for first time, April 3, 2 places	M	,,
597	,, ...	M	5	13 IV	13 IV	3 Good	M	,,
598	St. George's	M	24	15 IV	16 IV	2 Good	D	,,
599	Central	M	40	15 IV	17 IV	2 Fair	S C	,,
600	,, ...	M	17	15 IV	17 IV	4 Good	D	,,
601	St. George's	M	33	17 IV	17 IV	1 Good	S C	,,
602	Ancoats	M	25	18 IV	19 IV	2 Fair	C	,,
603	St. George's	M	28	19 IV	19 IV	1 Fair	D	,,
604	,, ...	F	11	17 IV	20 IV	2 Fair	D	,,
605	Moston	M	13	18 IV	20 IV	3 Fair	M	,,
606	Bradford............	F	30	17 IV	20 IV	3 Good	M	,,
607	Ancoats	F	22	19 IV	21 IV	4 Mod.	D	,,
608	,, ...	F	12	20 IV	21 IV	Uncertain	C	,,
609	Rusholme	M	39	20 IV	21 IV	2 Mod.	C	Died
610	St. George's	M	23	21 IV	22 IV	4 Good	D	Recovered
611	Ardwick............	M	36	22 IV	22 IV	2 Fair	S C	,,
612	Central	M	24	21 IV	23 IV	3 Mod.	D	,,
613	Newton Heath ...	M	15	23 IV	23 IV	3 Faint	D	,,
614	Hulme	F	30	19 IV	23 IV	2 Faint	D	,,
615	Ancoats	M	16	22 IV	24 IV	4 Good	D	,,
616	Cheetham	M	31	22 IV	24 IV	1 Good	S C	,,
617	Ardwick............	M	45	24 IV	24 IV	2 Poor	D	,,

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TABLE R—*continued.*

No.	District *	Sex	Age	Date of		Condition as to Vaccination	Character of Attack	Result
				Rash	Removal to Hospital			
618	Gorton	M	53	23 IV	24 IV	1 Good, 2 Faint	D	Recovered
619	Ancoats	F	30	25 IV	25 IV	2 Fair	S C	,,
620	,,	F	12	24 IV	25 IV	1 Faint	S C	,,
621	,,	F	20	23 IV	25 IV	3 Mod.	D	,,
622	St. George's	F	25	24 IV	25 IV	1 Faint	M	,,
623	Hulme	M	29	24 IV	25 IV	5 Fair	M	,,
624	Ancoats	M	11	24 IV	25 IV	3 Good	M	,,
625	,,	M	11	25 IV	26 IV	Unvaccinated	C	,,
626	Cheetham	M	23	26 IV	26 IV	1 Good	D	,,
627	Moston	M	14	20 IV	26 IV	3 Good	M	,,
628	,,	M	45	24 IV	26 IV	2 Good	D	,,
629	Newton	M	13	23 IV	26 IV	4 Good	D	,,
630	Hulme	M	24	25 IV	26 IV	Unvaccinated	D	,,
631	Ancoats	F	12	26 IV	27 IV	1 Good	D	,,
632	,,	M	37	27 IV	27 IV	2 Mod.	S C	,,
633	Harpurhey	M	9	23 IV	27 IV	2 Faint	M	,,
634	Ancoats	M	19	26 IV	28 IV	4 Good	D	,,
635	St. George's	M	28	28 IV	28 IV	1 Mod.	D	,,
636	,,	F	33	23 IV	28 IV	2 Good	D	,,
637	,,	M	24	26 IV	28 IV	Unvaccinated	C	,,
638	Blackley	F	14	27 IV	28 IV	Unvaccinated	C	,,
639	Ancoats	F	28	28 IV	29 IV	1 Good	S C	,,
640	St. George's	F	25	28 IV	29 IV	3 Poor	D	,,
641	Blackley	F	42	26 IV	29 IV	3 Mod.	D	,,
642	Bradford	M	32	26 IV	29 IV	2 Good	C	,,
643	Ancoats	M	3	29 IV	29 IV	Vac. 26/2/93	S C	Died
644	Chorlton-on-Med.	M	32	27 IV	29 IV	1 Good	C	Recovered
645	*Stretford*	M	30	31 III	24 IV	3 Mod. Re-vac. 2 unsuccessf'ly	M	,,
646	,,	F	2	22 IV	24 IV	3 unsuccessful attempts	D	,,
647	,,	F	5	23 IV	24 IV	3 unsuccessful attempts	C	Died
648	Central	M	13	28 IV	30 IV	Unvaccinated	S C	Recovered
649	Newton Heath	M	22	29 IV	30 IV	2 Good	D	,,
650	Ancoats	M	42	30 IV	1 V	2 Good	D	,,
651	,,	F	30	30 IV	1 V	3 Fair	D	,,
652	St. George's	M	48	1 V	1 V	2 Good	D	,,
653	,,	F	12	1 V	1 V	3 Good	D	,,
654	,,	F	30	25 IV	2 V	2 Good	D	,,
655	,,	F	22	2 V	2 V	3 Good	M	,,
656	,,	M	21	2 V	2 V	3 Mod. 2 Good	D	,,
657	Beswick	F	16	1 V	2 V	3 Faint	C	,,
658	Chorlton-on-Med.	F	75	29 IV	Nursed	at Home		,,
659	,,	M	20	1 V	2 V	2 Poor	C	,,
660	Hulme	M	50	28 IV	2 V	1 Good	D	,,
661	Ancoats	F	16	2 V	3 V	Unvaccinated	S C	,,
662	St. George's	M	11	2 V	3 V	4 Marks	M	,,
663	Harpurhey	M	11	1 V	3 V	Unvaccinated	H	Died
664	Ardwick	F	34	2 V	4 V	2 Good, 1 Fair	D	Recovered
665	Gorton, West	M	36	1 V	4 V	5 Faint	M	,,
666	Hulme	F	22	2 V	4 V	2 V. Good	C	,,
667	,,	F	41	2 V	4 V	2 Good	C	,,
668	Ancoats	M	30	3 V	5 V	Unvaccinated	H	Died
669	Hulme	F	12	22 IV	5 V	...	D	Recovered
670	,,	M	47	2 V	5 V	3 Fair	D	,,
671	,,	F	15	2 V	6 V	3 Good	D	,,
672	Chorlton-on-Med.	M	52	5 V	6 V	1 Mod.	H	Died
673	Newton	M	17	7 V	7 V	2 Good	D	Recovered

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TABLE R—*continued.*

No.	District*	Sex	Age	Date of		Condition as to Vaccination	Character of Attack	Result
				Rash	Removal to Hospital			
674	Bradford…………	F	26	1 V	6 V	3 Poor	D	Recovered
675	Openshaw………	M	22	5 V	7 V	4 Mod.	D	,,
676	St. George's……	F	38	8 V	8 V	2 Good	D	,,
677	,, ……	M	28	5 V	8 V	3 Good	D	,,
678	Harpurhey………	F	46	7 V	8 V	2 Good	D	,,
679	Ancoats…………	F	35	7 V	9 V	2 V. Faint	S C	,,
680	Newton…………	F	12	5 V	9 V	3 Good	M	,,
681	St. George's……	M	39	10 V	10 V	Uncertain	S C	,,
682	Ardwick…………	M	47	10 V	10 V	4 Poor	D	,,
683	Openshaw………	M	16	6 V	10 V	4 Good	M	,,
684	,, ………	F	18	9 V	10 V	4 Good	M	,,
685	Hulme…………	M	33	8 V	10 V	2 Mod.	D	,,
686	Ancoats…………	F	27	10 V	11 V	…	M	,,
687	Central…………	F	25	10 V	11 V	4 V. Fair	D	,,
688	St. George's……	F	31	11 V	11 V	1 Good	D	,,
689	,, ……	M	37	10 V	11 V	2 Faint Re-vac. 1888	C	,,
690	,, ……	M	17	10 V	11 V	4 Fair	M	,,
691	,, ……	M	22	10 V	11 V	3 V. Good	M	,,
692	Newton Heath…	M	11	10 V	11 V	4 Good	M	,,
693	,, …	M	7	10 V	11 V	3 Good	M	,,
694	Ancoats…………	F	13	10 V	12 V	1 Good	D	,,
695	,, …………	F	9	10 V	12 V	3 Good	M	,,
696	St. George's……	F	9	12 V	12 V	3 Mod.	C	,,
697	,, ……	M	12	11 V	12 V	No Marks	S C	,,
698	,, ……	M	30	8 V	12 V	2 Good	D	,,
699	Ardwick…………	M	23	12 V	12 V	2 Good	D	,,
700	Hulme…………	F	30	9 V	12 V	1 Good	C	,,
701	St. George's……	M	27	13 V	13 V	3 Good	D	,,
702	Blackley…………	M	38	13 V	13 V	1 Good	D	,,
703	*Moss Side*………	M	14	2 V	7 V	Unvaccinated	C	,,
704	*Stretford*…………	F	22	10 V	10 V	3 Good	C	,,
705	*Sale*………………	M	24	10 V	11 V	1 Good	D	,,
706	*Stretford*…………	F	32	6 V	11 V	3 Good	D	,,
707	,, …………	M	27	9 V	11 V	3 Good	D	,,
708	,, …………	M	22	26 IV	11 V	3 Good	M	,,
709	*Withingtou*……	M	58	10 V	11 V	3 Mod.	C	,,
710	Ancoats…………	M	17	12 V	15 V	No Vis. Marks	D	,,
711	,, …………	F	22	13 V	15 V	4 Good	D	,,
712	,, …………	M	15	14 V	15 V	3 Good	D	,,
713	Central…………	F	16	13 V	15 V	4 V. Good	M	,,
714	St. George's……	M	19	13 V	15 V	1 Good, 1 Mod.	D	,,
715	Hulme…………	F	17	14 V	15 V	3 Good	D	,,
716	,, …………	F	27	14 V	15 V	3 Good	D	,,
717	St. George's……	M	28	16 V	16 V	3 Good	D	,,
718	Newton Heath…	F	16	15 V	16 V	Unvaccinated	C	Died
719	Hulme…………	F	56	15 V	16 V	3 Fair	M	Recovered
720	,, …………	F	21	15 V	16 V	Uncertain	D	,,
721	St. George's……	F	27	17 V	17 V	4 Good	D	,,
722	Newton Heath…	M	19	17 V	17 V	4 V. Good	M	,,
723	Hulme…………	F	13	15 V	17 V	3 Good	D	,,
724	St. George's……	M	65	18 V	18 V	4 Faint	D	,,
725	Moston…………	M	17	17 V	18 V	4 Good	D	,,
726	,, …………	F	21	17 V	18 V	4 Good	D	,,
727	Central…………	M	28	15 V	19 V	1 Good	M	,,
728	,, …………	M	28	19 V	19 V	3 Mod.	D	,,
729	Gorton…………	F	23	17 V	19 V	3 Faint	D	,,
730	Ancoats…………	F	13	20 V	20 V	4 Fair	C	,,
731	St. George's……	F	19	18 V	20 V	2 Good	M	,,

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TABLE R—*continued.*

No.	District*	Sex	Age	Date of Rash	Date of Removal to Hospital	Condition as to Vaccination	Character of Attack	Result
732	Ancoats	M	1	20 V	1 V	Unvaccinated. Vacc. during incubation 17/5/93 unsuccessfully	C	Died
733	,,	F	16	21 V	22 V	4 V. Good	M	Recovered
734	St. George's	F	25	19 V	22 V	2 Good	D	,,
735	Hulme	F	14	20 V	23 V	2 Mod.	D	,,
736	Openshaw	F	25	24 V	24 V	3 Good	D	,,
737	Chorlton-on-Med.	F	38	21 V	24 V	2 Fair	D	,,
738	Hulme	M	26	21 V	25 V	2 Good	D	,,
739	Central	M	28	24 V	25 V	2 Fair	D	,,
740	St. George's	M	21	22 V	26 V	4 V. Good	M	,,
741	,,	F	10	25 V	27 V	4 Fair	M	,,
742	,,	M	12	24 V	27 V	4 Good	M	,,
743	*Moss Side*	M	45	17 V	19 V	2 Good	C	Died
744	*Stretford*	F	27	17 V	20 V	4 Good	M	Recovered
745	*Swinton*	F	28	20 V	22 V	3 Mod.	D	,,
746	*Withington*	M	26	23 V	24 V	1 V. Good	C	Died
747	,,	M	20	22 V	23 V	Unvaccinated	C	,,
748	Central	M	25	26 V	28 V	Unvaccinated	H	,,
749	St. George's	M	32	26 V	28 V	Uncertain	C	,,
750	Crumpsall	M	34	29 V	30 V	2 Fair	S C	,,
751	Newton Heath	M	18	29 V	30 V	2 Good	S C	Recovered
752	Moston	M	16	29 V	30 V	3 Good	M	,,
753	Cheetham	M	22	30 V	31 V	3 Good, 3 Fair	S C	,,
754	Crumpsall	M	64	31 V	31 V	3 Mod.	S C	,,
755	,,	M	45	31 V	31 V	2 Mod.	C	,,
756	Chorlton-on-Med.	M	38	30 V	31 V	2 Mod.	C	,,
757	St. George's	F	38	2 VI	2 VI	2 Good	D	,,
758	,,	F	34	1 VI	3 VI	3 Mod.	C	,,
759	Moston	F	31	30 V	3 VI	3 Fair	D	,,
760	,,	M	18	1 VI	3 VI	3 Good	D	,,
761	*Swinton*	F	7mo's	26 V	28 V	Unvaccinated	D	Died
762	St. George's	M	48	4 VI	4 VI	1	M	Recovered
763	Central	F	39	5 VI	5 VI	Uncertain	H	Died
764	St. George's	M	17	4 VI	5 VI	4 Good	M	Recovered
765	Crumpsall	M	50	4 VI	4 VI	3 Mod.	D	,,
766	Moston	F	12	3 Weeks ago	5 VI	Unvaccinated	D	,,
767	Newton Heath	M	55	5 VI	6 VI	Uncertain	H	Died
768	Moston	F	14	12 IV	7 VI	Uncertain	D	Recovered
769	St. George's	F	9	5 VI	8 VI	Unvaccinated	S C	,,
770	Newton Heath	M	19	25 V	8 VI	1 V. Good	D	,,
771	,,	M	33	7 VI	8 VI	1 Good	S C	,,
772	,,	F	46	10 VI	10 VI	2 V. Faint	C	,,
773	Openshaw	F	17	6 VI	10 VI	3 Fair	M	,,
774	,,	F	21	9 VI	10 VI	3 Mod.	D	,,
775	,,	M	12	8 VI	10 VI	3 Fair	D	,,
776	Hulme	M	30	6 VI	10 VI	2 V. Good	D	,,
777	*Wilmslow*	M	33	3 VI	5 VI	1 Good	M	,,
778	Crumpsall	F	19	12 VI	12 VI	4 Good	D	,,
779	Moston	F	4	12 VI	12 VI	Unvaccinated	D	,,
780	,,	F	4mo's	12 VI	12 VI	Unvaccinated	S C	,,
781	,,	F	26	3 VI	12 VI	2 V. Faint	S C	,,
782	,,	F	2	12 VI	13 VI	Unvaccinated	D	,,
783	Newton Heath	M	28	12 VI	13 VI	2 Faint	D	,,
784	St. George's	F	28	13 VI	14 VI	1 Good	D	,,
785	,,	M	11	14 VI	15 VI	3 V. Good	M	,,
786	,,	F	2	12 VI	16 VI	Unvaccinated	D	,,

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TABLE R—*concluded.*

No.	District *	Sex	Age	Date of		Condition as to Vaccination	Character of Attack	Result
				Rash	Removal to Hospital			
787	St. George's	F	33	15 VI	16 VI	2 V. Fair	H	Died
788	Moston	F	36	15 VI	16 VI	2 V. Good	S C	Recovered
789	St. George's	F	40	18 VI	18 VI	2 Good	S C	,,
790	Central	M	28	18 VI	19 VI	2 Faint	C	,,
791	St. George's	F	19	19 VI	19 VI	4 Good	D	,,
792	Crumpsall	M	28	19 VI	19 VI	2 Good	C	,,
793	,, ...	M	44	19 VI	19 VI	3 Good	D	,,
794	St. George's	M	28	21 VI	22 VI	1 Good	M	,,
795	,, ...	F	11	22 VI	22 VI	4 Good	M	,,
796	*Runcorn*............	M	31	8 VI	11 VI	3 Good	S C	,,
797	*Withington*	M	22	14 VI	17 VI	3 V. Good	M	,,
798	*Radcliffe*............	M	23	21 VI	23 VI	Uncertain	S C	,,
799	*Urmston*............	F	15	20 VI	23 VI	4 V. Good	D	,,
800	St. George's	M	25	26 VI	27 VI	3 Good	D	,,
801	*Withington*	F	20	26 VI	27 VI	Unvaccinated	D	,,
802	,, ...	M	21	28 VI	29 VI	1 Faint	C	,,
803	Newton Heath ...	M	27	2 VII	4 VII	1 Good	C	,,
804	Moston	F	14	8 VII	10 VII	Unvaccinated	S C	,,
805	St. George's	F	13	11 VII	13 VII	4 Faint	D	,,
806	Harpurhey	F	34	12 VII	13 VII	3 Faint	S C	,,
807	Newton Heath ...	F	51	11 VII	13 VII	Unvaccinated	H	Died
808	*Gorton* (*outer*) ...	F	24	11 VII	15 VII	4 Faint	D	Recovered
809	Newton Heath ...	M	19	16 VII	16 VII	3 Good	C	,,
810	St. George's	M	54	18 VII	18 VII	2 Good	D	,,
811	,, ...	M	35	22 VII	22 VII	3 Faint 3 Faint, 1878	C	Died
812	,, ...	M	44	1 VIII	1 VIII	3 Good	C	Recovered
813	,, ...	M	38	5 VIII	5 VIII	2 Good	C	Died
814	,, ...	F	54	8 VIII	10 VIII	1 Good	D	Recovered
815	Hulme	M	48	12 VIII	14 VIII	2 Good	D	,,
816	Chorlton-on-Med.	F	37	11 VIII	15 VIII	2 Good	D	,,
817	,,	M	32	15 VIII	16 VIII	1 V. Good	D	,,
818	*Stretford*............	M	31	13 VIII	14 VIII	1 Mod.	C	,,
819	St. George's	F	30	19 VIII	21 VIII	1 V. Good	S C	,,
820	*Prestwich*	F	36	8 X	16 X	2 V. Good	D	,,
821	*Moss Side*	F	30	26 X	30 X	3 Good	D	,,
822	,, ...	M	28	26 X	30 X	3 Good	D	,,
823	Chorlton-on-Med.	F	28	12 XII	13 XII	1 Good	D	,,
824	Bradford	F	23	16 XII	18 XII	2 Mod.	S C	,,
825	Moston	F	16	21 XII	22 XII	4 Fair	D	......
826	St. George's	M	50	19 XII	23 XII	3 Fair	D	......

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TABLE S, 1891.—WORK OF SANITARY DEPARTMENT, APRIL 27TH, 1891, TO JANUARY 2ND, 1892 (EIGHT MONTHS).

		TOWNSHIPS																		
		Ancoats	Central	St. George's	Cheetham	Crumpsall	Blackley	Harpurhey	Moston	Newton	Bradford	Beswick	Clayton	Ardwick	Openshaw	Gorton (West)	Rusholme and Kirkmanshulme	Chorlton-upon-Medlock	Hulme	TOTAL
Complaints to Sanitary Superintendent ...		3,140	1,693	3,162	2,663	404	417	865	381	1,142	681	494	187	781	623	839	578	2,085	2,040	22,475
Inspections of	Dwelling-houses	3,980	1,549	5,665	3,266	1,225	563	201	331	2,156	670	281	544	870	1,658	719	1,296	1,580	3,181	29,735
	Newly-infected Dwelling-houses	52	114	272	63	31	16	26	8	120	85	29	24	85	67	56	33	143	220	1,444
	Cellars..	99	13	182	...	...	...	...	...	25	43	...	3	...	92	...	...	...	23	480
	Schools	5	8	28	1	2	...	...	1	39	3	...	...	...	10	1	1	...	7	106
	Factories and Workshops	9	8	30	...	...	...	...	...	10	4	...	...	...	...	...	1	...	...	62
	Lodging-houses	190	42	373	208	...	...	...	...	187	3	15	...	7	...	...	...	130	81	1,236
	Offensive Trades	1	...	17	...	...	...	...	...	6	3	...	...	1	...	...	2	...	...	30
	Dairies and Milkshops	372	136	731	167	96	76	40	22	327	95	57	47	90	290	190	160	267	208	3,371
	Bakehouses	78	50	104	84	2	2	6	2	33	20	10	...	30	76	11	20	46	56	630
	Canal Boats	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	836
	Slaughter-houses	...	...	1	...	1	...	...	...	...	3	1	...	...	...	...	...	...	...	6
	Tips for Refuse	4	...	30	...	29	6	11	113	...	27	12	9	1	...	4	12	...	...	258
	Miscellaneous Inspections	894	654	1,320	541	255	116	62	132	713	301	200	65	308	405	186	354	531	685	7,722
Re-inspections of Infected Dwelling-houses.		201	214	273	107	24	23	42	13	149	138	60	19	117	95	43	31	213	256	2,018
Rooms Fumigated after Infectious Disease		101	127	373	29	25	19	15	39	160	66	40	24	74	72	49	35	167	279	1,694
Drains Tested by Smoke Machine		...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	29	30
Smoke Abatement	Observations made	196	264	83	51	17	16	34	20	69	2	11	2	105	49	32	20	59	25	1,055
	Proceedings taken before Magistrates	4	22	6	1	...	...	3	1	1	1	...	3	6	2	...	...	10	2	62
Food Adulteration	Samples Collected for Analysis	115	126	107	25	...	8	24	...	52	32	52	...	118	77	74	33	126	104	1,080
	Proceedings taken before Magistrates	1	9	9	1	...	1	...	...	4	6	3	...	9	9	5	2	7	...	66
Ashpits reported to Cleansing Department for emptying		336	36	41	336	162	90	649	57	724	414	...	42	116	271	311	71	25	14	3,695
Receptacles reported to Cleansing Department for emptying		398	191	554	740	24	5	8	...	21	...	28	...	52	...	8	45	244	162	2,480
Notices issued for Abatement of Nuisances		1,375	829	1,755	1,077	242	326	176	258	859	400	85	94	544	412	524	363	1,499	1,367	12,185
Letters written for Abatement of Nuisances		262	42	185	150	21	41	21	7	95	33	...	16	38	44	48	35	134	80	1,252
Reports made to Medical Officer of Health		263	101	167	40	22	16	6	17	54	27	...	2	17	26	21	38	64	87	968
Legal proceedings taken		69	10	19	33	2	2	2	1	7	...	...	...	1	...	3	13	11	12	194
Total Nuisances abated		1,365	615	1,766	944	281	259	152	567	834	385	85	74	267	431	460	280	887	1,311	10,963
Number of Cottages under Five Rooms ...		7,435	4,964	9,037	729	522	923	688	367	4,409	2,621	1,285	402	4,552	3,510	3,221	826	3,805	8,167	57,463

TABLE S, 1892.—Work of Sanitary Department for the Year.

		TOWNSHIPS																		TOTAL
		Ancoats	Central	St. George's	Cheetham	Crumpsall	Blackley	Harpurhey	Moston	Newton	Bradford	Beswick	Clayton	Ardwick	Openshaw	Gorton (West)	Rusholme and Kirkmanshulme	Chorlton-upon-Medlock	Hulme	
	Complaints to Sanitary Superintendent	1,577	1,390	2,004	921	53	55	45	49	349	38	27	29	253	114	120	66	861	1,248	9,199
Inspections of	Dwelling-houses	4,085	4,374	6,500	3,503	1,094	278	372	977	2.750	827	309	900	1,876	1,734	1,144	1,936	4,609	6,170	43,438
	Newly-infected Dwelling-houses	187	187	345	176	28	31	61	24	318	87	52	6	121	107	149	41	161	317	2,398
	Cellars	189	22	25	3	...	...	...	152	366	111	11	3	...	1	...	2	...	115	1,000
	Schools	11	...	52	2	1	...	...	3	23	54	14	...	...	3	...	...	4	1	168
	Factories and Workshops	188	94	302	199	12	16	9	5	176	41	...	6	...	12	26	...	14	49	1,149
	Lodging-houses	442	195	367	337	...	...	...	...	57	92	9	...	34	9	41	13	177	239	2,012
	Offensive Trades	86	22	369	32	15	2	...	3	117	117	...	75	33	9	15	12	4	25	936
	Dairies and Milkshops	829	248	963	116	120	103	55	116	439	371	151	87	246	234	140	517	756	300	5,791
	Bakehouses	181	96	162	54	7	...	15	...	55	22	21	...	65	39	18	27	166	136	1,064
	Canal Boats	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,134
	Slaughter-houses	9	1	3	2	2	...	3	...	23	40	2	6	...	1	8	31	3	15	149
	Tips for Refuse	1	...	75	1	46	...	48	10	78	40	28	42	...	16	5	30	...	...	520
	Miscellaneous Inspections	1,773	940	625	692	161	146	74	308	2,510	1	...	50	179	59	42	488	301	923	9,272
	Re-inspections of Infected Dwelling-houses	513	415	1,191	472	113	63	87	67	726	478	279	51	142	411	145	138	362	646	6,299
	Rooms Fumigated after Infectious Disease	311	322	1,170	281	32	35	59	74	1,022	81	67	22	257	55	64	120	196	505	4,673
	Drains Tested by Smoke Machine	5	11	...	15	3	2	...	5	6	...	...	...	4	2	5	1	6	355	420
Smoke Abatement	Observations made	321	487	74	54	47	6	33	49	135	6	19	7	139	72	40	39	87	76	1,691
	Proceedings taken before Magistrates	7	41	10	1	4	1	6	1	14	...	1	...	9	5	6	2	11	7	126
Food Adulteration	Samples Collected for Analysis	176	170	123	74	10	9	23	12	82	91	53	16	161	90	116	35	213	188	1,653
	Proceedings taken before Magistrates	8	36	9	3	1	...	...	...	3	11	8	...	6	9	15	2	15	7	133
	Ashpits reported to Cleansing Department for emptying	333	16	6	34	412	122	998	238	4,248	...	...	184	294	250	383	397	106	41	8,062
	Receptacles reported to Cleansing Department for emptying	425	580	1,471	2,292	16	2	7	...	135	275	185	38	112	20	...	80	583	320	6,541
	Notices issued for Abatement of Nuisances.	1,771	1,526	2,279	1,600	205	191	226	175	971	477	305	230	700	649	522	419	1,547	1,775	15,568
	Letters written for Abatement of Nuisances	189	102	144	14	85	16	8	10	129	...	...	14	99	22	...	41	68	98	1,049
	Reports made to Medical Officer of Health	640	275	430	43	...	2	...	...	134	1	...	2	27	...	6	22	13	391	1,986
	Legal proceedings taken	168	10	14	28	4	7	4	3	15	...	...	2	4	3	16	9	53	19	387
	Total Nuisances abated	1.549	1.193	1,985	1,171	217	275	221	200	961	506	312	216	475	350	492	390	1,124	1,358	12,995
	Number of Cottages under Five Rooms	7,435	4,964	9.037	729	522	923	688	367	4,409	2,621	1,285	402	4,552	3,510	3,221	826	3,805	8,167	57,463

TABLE S, 1893—Work of Sanitary Department for the Year.

		TOWNSHIPS																		
		Ancoats	Central	St. George's	Cheetham	Crumpsall	Blackley	Harpurhey	Moston	Newton	Bradford	Beswick	Clayton	Ardwick	Openshaw	Gorton (West)	Rusholme and Kirkmanshulme	Chorlton-upon-Medlock	Hulme	TOTAL
Complaints to Sanitary Superintendent ...		1,162	1,243	1,339	618	68	20		29	153	201	66	17	199	117	157	49	707	960	7,167
Inspections of	Dwelling-houses	4,852	2,558	4,851	2,688	1,026	346	424	481	2,396	674	235	877	1,489	1,404	825	2,442	2,623	5,207	35,398
	Newly-infected Dwelling-houses	209	168	403	214	51	56	76	32	379	129	89	24	194	251	269	122	264	373	3,303
	Cellars.....................................	530	31	118	...	1	...	...	...	6	35	1	3	...	...	...	...	18	...	743
	Schools	55	1	52	1	3	2	1	...	7	1	...	...	...	1	...	9	3	3	139
	Factories and Workshops	152	210	184	177	6	...	...	15	15	28	...	3	8	1	1	1	7	6	814
	Lodging-houses	697	78	344	59	...	6	...	...	60	...	...	...	21	16	3	...	45	161	1,490
	Offensive Trades	112	13	203	7	...	6	...	1	124	71	25	48	93	15	3	3	3	9	736
	Dairies and Milkshops....................	472	191	578	160	24	36	40	87	287	173	67	102	168	146	72	339	456	490	3,888
	Bakehouses	75	13	103	12	9	...	1	1	39	9	8	...	40	5	4	12	67	29	427
	Canal Boats	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,090
	Slaughter-houses	6	2	...	...	4	3	2	...	19	14	2	4	9	4	11	88	...	9	177
	Tips for Refuse.............................	2	...	18	...	1	4	92	100	58	24	9	27	9	44	5	33	...	...	426
	Miscellaneous Inspections	2,804	1,642	1,320	758	71	33	64	347	1,666	377	49	200	170	261	220	570	350	791	11,693
	Factories and Workshops by Factory, &c., Inspectors	22	828	27	240	...	...	...	...	...	...	2	...	44	2	1	1	154	65	1,386
	Shops by Factory, &c., Inspectors......	46	2,443	27	176	...	...	...	...	...	...	9	...	413	23	2	1	558	305	4,003
Re-inspections of Infected Dwelling-houses		1,335	693	1,469	829	83	113	183	145	1,358	660	398	151	691	843	269	369	713	1,475	11,777
Rooms Fumigated after Infectious Disease		511	378	1,319	319	65	42	43	27	1,187	254	107	53	396	411	128	255	256	782	6,533
Drains Tested by Smoke Machine...........		3	19	1	1	20	4	...	...	3	...	10	...	4	2	...	2	6	9	84
Smoke Abatement	Observations made	245	409	127	62	72	22	4	47	193	46	19	29	143	77	59	48	115	98	1,815
	Proceedings before Magistrates	1	26	20	6	2	1	1	3	15	...	1	1	5	1	3	1	13	4	104
Food Adulteration	Samples Collected for Analysis	175	153	103	42	4	17	18	17	68	111	53	18	172	82	139	43	211	211	1,640
	Proceedings before Magistrates	11	25	10	3	...	1	2	6	1	11	3	...	7	6	10	8	21	15	140
Ashpits reported to Cleansing Department for emptying		433	25	5	18	799	186	801	200	1,290	2,278	...	124	92	115	291	168	105	36	6,966
Receptacles reported to Cleansing Department for emptying............................		965	200	633	1,558	...	...	39	6	397	606	307	2	27	5	10	37	242	25	5,059
Notices issued for Abatement of Nuisances.		1,890	1,353	2,116	1,618	231	235	167	105	842	353	259	187	600	510	599	486	1,415	2,041	15,007
Letters written for Abatement of Nuisances		78	32	32	72	5	21	1	1	30	12	2	4	12	24	19	20	32	11	408
Reports made to Medical Officer of Health		587	162	414	68	6	...	...	...	37	4	3	...	1	3	12	16	9	233	1,555
Legal proceedings taken		85	16	23	33	1	3	...	7	18	3	1	...	3	...	1	4	35	28	261
Total Nuisances abated		1,570	981	2,067	1,579	198	199	193	105	852	345	262	165	430	383	599	402	1,074	1,506	12,910
Number of Cottages under Five Rooms...		7,435	4,964	9,037	729	522	923	688	367	4,409	2,621	1,285	402	4,552	3,510	3,221	826	3,805	8,167	57,463

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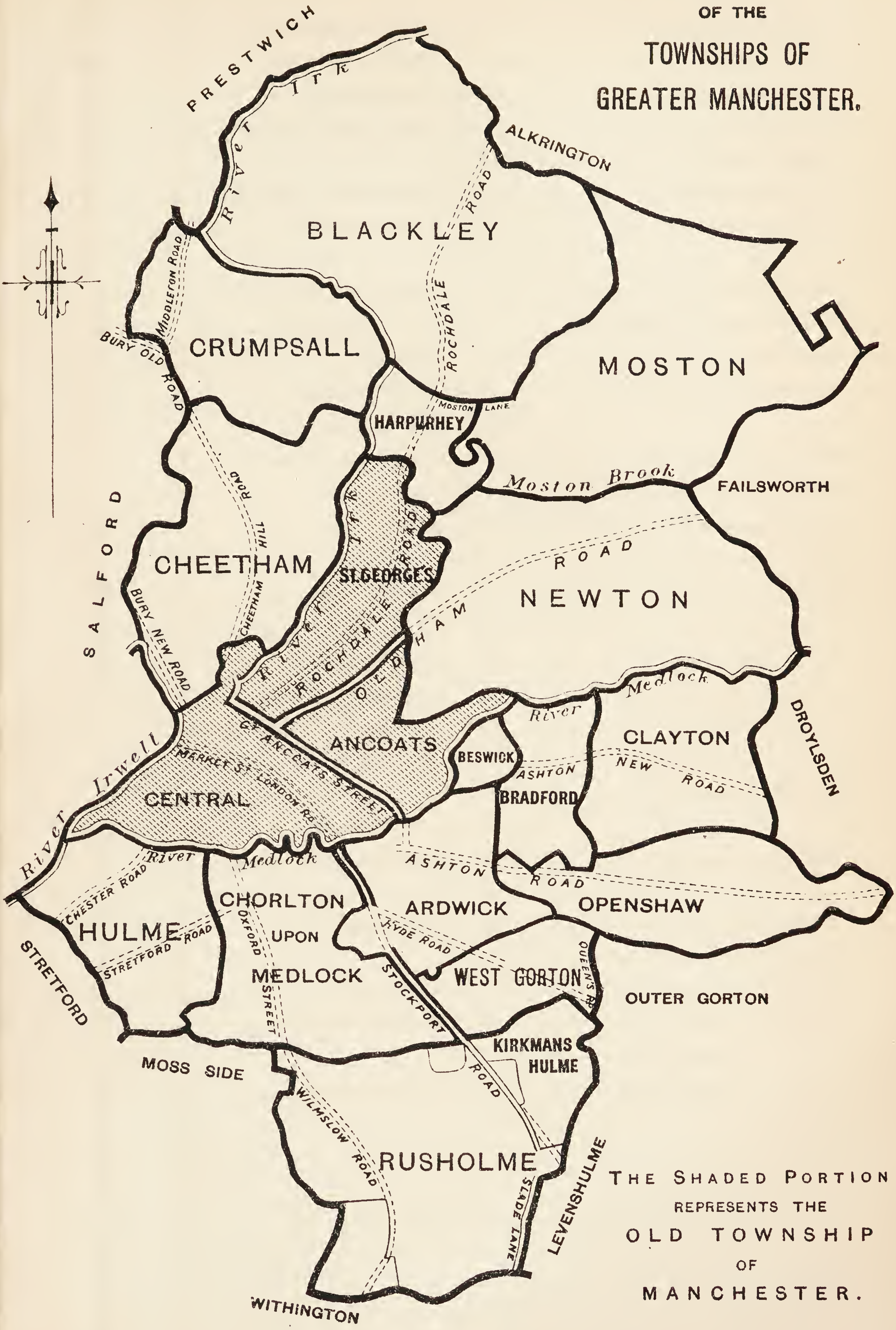
MAP
OF THE
TOWNSHIPS OF GREATER MANCHESTER.



THE SHADED PORTION
REPRESENTS THE
OLD TOWNSHIP
OF
MANCHESTER.

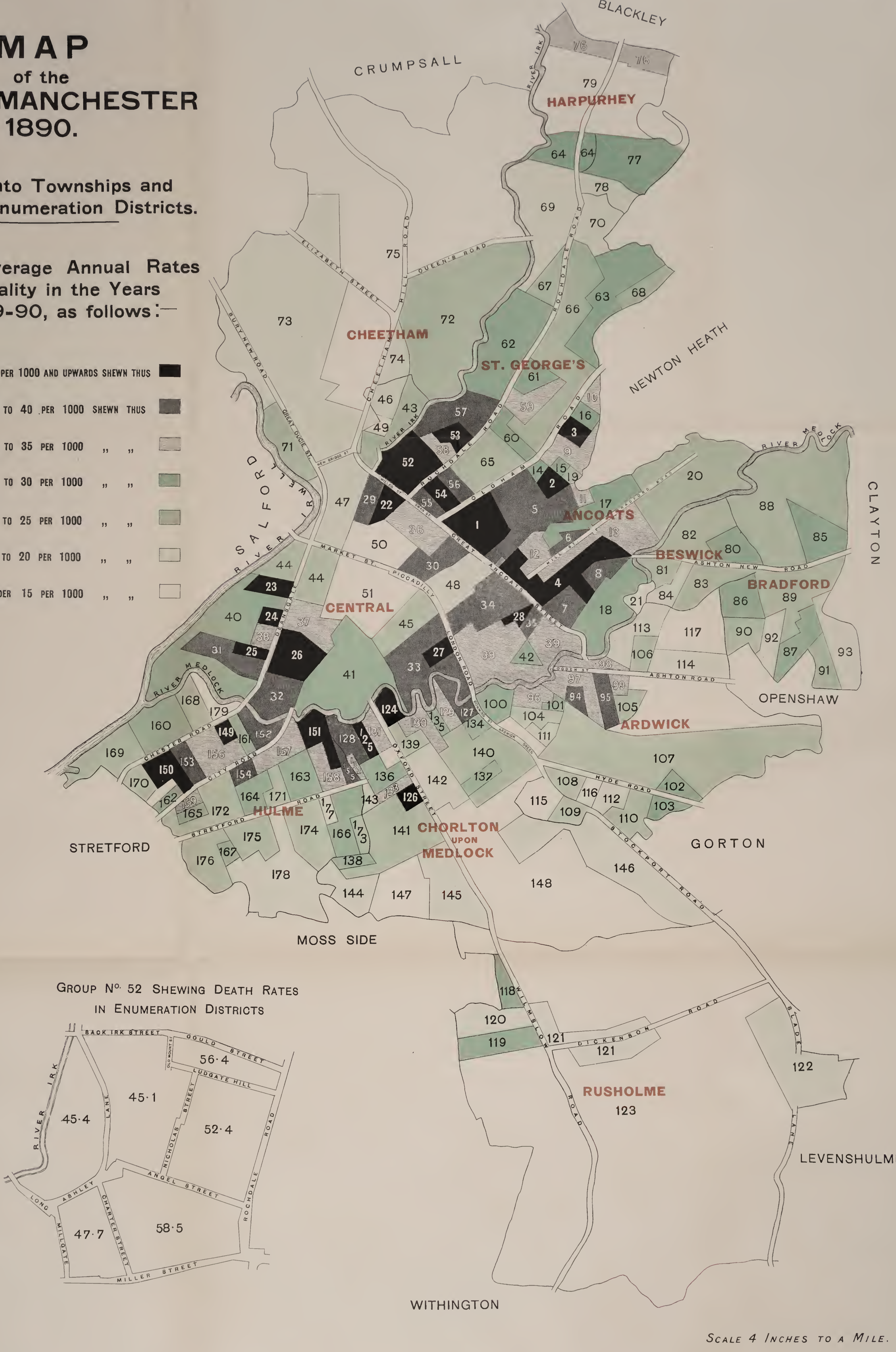
Scale 1 Inch = 1 Mile.

MAP
of the
CITY OF MANCHESTER
1890.

Divided into Townships and
Groups of Enumeration Districts.

Shewing Average Annual Rates
of Mortality in the Years
1888-89-90, as follows:—

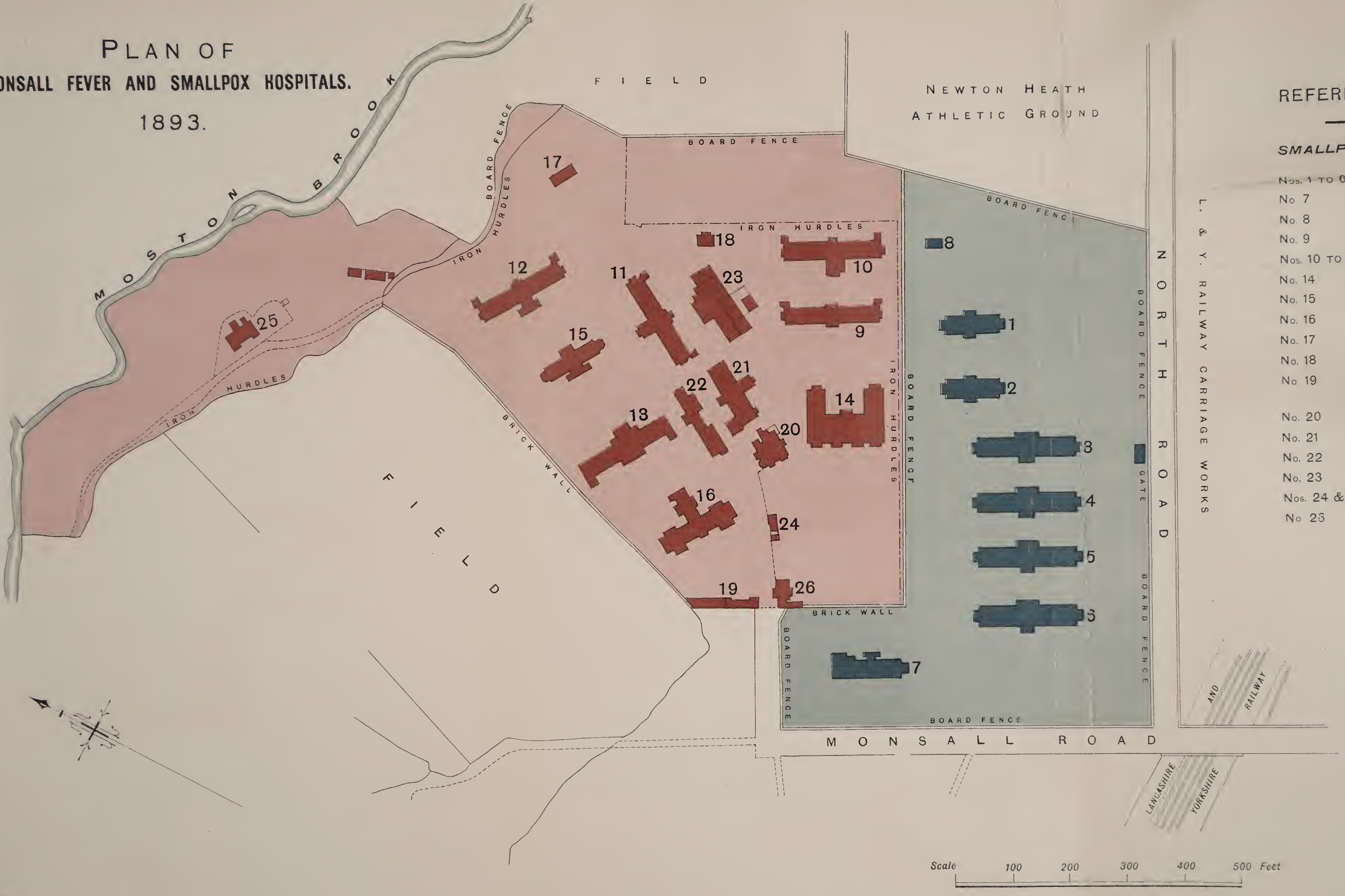
RATES OF MORTALITY 40 PER 1000 AND UPWARDS SHEWN THUS ■
" " 35 TO 40 PER 1000 SHEWN THUS ▩
" " 30 TO 35 PER 1000 " " ▨
" " 25 TO 30 PER 1000 " " 🟩
" " 20 TO 25 PER 1000 " " 🟩
" " 15 TO 20 PER 1000 " " ☐
" " UNDER 15 PER 1000 " " ☐



Scale 4 Inches to a Mile.

W.H.ROOS.

PLAN OF
MONSALL FEVER AND SMALLPOX HOSPITALS.
1893.



REFERENCE TO BUILDINGS

SMALLPOX–BLUE FEVER–RED

Nos. 1 to 6	Smallpox Wards
No 7	Smallpox Administration
No. 8	Smallpox Mortuary
No. 9	Old Smallpox Ward
Nos. 10 to 13	Scarlet Fever Wards
No. 14	Fever Administration
No. 15	Diphtheria Ward
No. 16	Enteric Fever Ward
No. 17	Isolation Ward
No. 18	Mortuary
No. 19	Discharging Wards and Disinfector
No. 20	Doctor's House
No. 21	Servants' Home
No. 22	Servants' Hall & Kitchen
No. 23	Laundry, Stable, &c.
Nos. 24 & 25	Workmen's Cottages
No 26	Porter's Lodge

HENRY BLACKLOCK & Co COLOUR PRINTERS, MANCHESTER

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